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CULTURAL RESOURCES MITIGATION at
the McILVAINE ISLAND SITE (47Lc160)
in NAVIGATION POOL 7, UPPER MISSISSIPPI RIVER
(DACW37-86-M-1721)

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REPORTS OF INVESTIGATIONS No: 72

MISSISSIPPI VALLEY ARCHAEOLOGY CENTER

at

THE UNIVERSITY OF WISCONSIN-LA CROSSE

MARCH, 1989

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<p>Emergency investigations at the McIlvaine Island site during 1986 and 1987 have added substantially to our understanding of past use of the Pool 7 area of the Upper Mississippi River. Here, where the tributary Black River has formed an extensive delta rich in riverine and lacustrine resources, the McIlvaine site offered an ideal raised camp site.</p> <p>The investigations of this site were prompted because human skeletal remains were found, and the island is eroding rapidly. Initially, the study sought to recover additional possible burials or identify other significant remains. Later the project was expanded to mitigate the most severely threatened east end of the island, and a more thorough research plan was established. The latter study was not only to salvage burials if found but to also assess the integrity of the deposits, document past periods of site utilization, compare the materials adjacent regions, and evaluate the age of the burials. The site contains significant cultural deposits, and it is recommended that the island be stabilized or rebuilt for cultural preservation and wildlife habitat.</p>					
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Acknowledgments

The McIlvaine Island site was first brought to the attention of professional archaeologists and controlling federal agencies in 1983 through a report of artifact finds by Gary Bender and his sons.

The investigations described in this report were prompted by the alert and concerned reporting of finding eroded human bone at the site in 1986 by Debbie and Bill Bauman. The Baumans have since continued their support of understanding and preserving the cultural historical record of the Lake Onalaska area by volunteering their time to assist in the field work and use of their boat to transport supplies and personnel to and from the island. They have also contacted and interviewed pre-lock and dam inhabitants of the floodplain, thereby preserving some of the unique history of this region. For all of these efforts, we express our appreciation to Debbie and Bill.

The Baumans were not alone in volunteering their time to assist in the field work. Others who came to help were John Pellowski and Steven Raith. In addition, many persons who have collected artifacts from the shores of the island have come forward and allowed us to photograph their collections. Both the Baumans and Jeff Stoleson have donated materials from their collections from this site.

We also appreciate the information provided by local residents, some of whom were familiar with the floodplain/Rice Lake area before the locks and dams. These include Dean Kime and Steve Hauser. Others have provided useful information on the destruction of the islands since the creation of Lake Onalaska. This latter group includes David Hammes, Jim Finn, Tim and Dean Blumentritt, and Dr. Thomas Claflin.

Finally, we wish to express our appreciation for the cooperation of the governmental agencies that saw the need to undertake these investigations, and supported them in a number of ways. For example, John Dobrovolsky, Regional Historian of the U.S. Fish and Wildlife Service, responded quickly to our report of eroding human remains. Furthermore, the local Refuge Manager, Dick Steinbach, aided these projects by coordinating and issuing needed permits and installing the snow fence to lessen wave erosion along the shoreline during the 1987 season. In addition, the St. Paul District Corps of Engineers is to be commended for their follow-up support of investigations at this site.

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TABLE OF CONTENTS

	<u>Page</u>
Acknowledgements	i
List of Figures	iv
Management Summary	v
Introduction	1
Environmental Background	5
Geology	5
Climate	7
Vegetation and Fauna	8
Culture History Background	9
Prehistory: Regional Chronology of Diagnostic Artifacts	9
Historic Era	11
Maps	14
Previous Investigations	25
Methods (1986)	26
Results (1986)	29
Surface Collection	29
Burial Test Pit	32
North Bank Cut	32
Features 1-4	35
South Bank Cut	35
Features 5-9	39
Site Condition (1987)	39
Methods (1987)	41
Results (1987)	43
Features 10-17	43
Site Stratigraphy	48
Artifact Assemblage	50
Chipped Stone	50
Groundstone	51
Ceramics	52
Historic	54
Private Collections	55
Evaluation and Conclusions	72
Recommendations	74
References Cited	75

- Appendix A: 1987 Scope of Work
- Appendix B: 1987 Scope of Work and Data Recovery Plan
- Appendix C: Artifact Tabulations
- Appendix D: Human Remains
- Appendix E: Correspondence
- Appendix F: Resumes
- Appendix G: Review Comments

LIST OF FIGURES

<u>FIGURE</u>		<u>PAGE</u>
1	Location of Project Area	2
2	Photo of McIlvaine Island Site	6
3	J. Nicollet 1839 Map of Area	16
4	G.L.O. 1846 Map of Area	17
5	Corps of 1870's Map of Area	18
6	Mississippi River Commission 1894 Chart 173	19
7	La Crosse County 1914 Soils Map	20
8	U.S.G.S. 15' 1931 Map of Area	21
9	Floodplain Flowage 1933 Map of Area	22
10	Aerial Photo of McIlvaine Island 1938	23
11	Aerial Photo of McIlvaine Island 1967	24
12	Photo of Erosion at Site in 1986	27
13	Map of 1986 Excavations	28
14	Human Remains	30
15	Reassembled Cranium	30
16	Pelvic Remains	31
17	Mandible and Maxilla	31
18	North Bank Cut 1986	33
19	Feature 1	34
20	South Bank Cut Profile	36
21	Feature 5	37
22	Feature 6	37
23	Feature 7	38
24	Site Condition 1987	40
25	Skim Shoveling North Bench 1987	42
26	Excavation of Grass Platform 1987	42
27	1987 Excavation Map	44
28	Profiles Features 10, 11, 13	45
29	Profiles Features 12, 14, 15	46
30	Site Stratigraphy	49
31	Chipped Stone Tools 1986	56
32	Chipped Stone Tools 1987	56
33	Full Grooved Axe in-situ	57
34	Full Grooved Axe	57
35	Late Early Woodland Sherds in MVAC Collections	58
36	Middle Woodland Sherds in MVAC Collections	59
37	Additional Late Early Woodland and Late Middle Woodland Sherds in MVAC Collection	60
38	Lane Farm and Late Woodland Sherds Including Feature 17 Vessel ..	60
39	Oneota Sherds	61
40	White-Clay Pipe Fragments	61
41-58	Private Collections	62
59	Composite Map of Features, 1986 and 1987	73

MANAGEMENT SUMMARY

In the spring of 1986 human skeletal remains were found along the eroding shore of the McIlvaine Island site (47Lc163), in Lake Onalaska -- a part of navigation pool 7 of the upper Mississippi River. These finds prompted the U.S. Fish and Wildlife Service (the agency that owns the island) to sponsor an emergency archaeological project in order to salvage any burials that might remain and be threatened with imminent destruction through erosion. The project was undertaken by the Mississippi Valley Archaeology Center (MVAC) during June of 1986. The project consisted of excavating the precise location where the human bone had been found on the shore, and cleaning vertical erosion banks along the northeast and southeast shorelines. Although no in-situ burials were found, six prehistoric storage/refuse pits, ranging in age from Early Woodland (ca. A.D. 0-100) to Oneota (ca. A.D. 1300-1600), were identified in the bank cut profiles and samples.

Plans to stabilize the shoreline by trucking in rip-rap were thwarted by thin ice on Lake Onalaska during the winter of 1986-87. Subsequently the St. Paul District Corps of Engineers sponsored Phase III mitigation of the precarious eastern end of the island. This latter project was undertaken by MVAC during July of 1987. An area approximately 2 x 6 meters was excavated at this time, and resulted in the identification of a 70 cm thick natural A-Horizon containing artifacts in relative stratigraphic position. Furthermore, an additional six features were located and excavated.

These investigations were hindered to some extent by a number of factors including scheduling difficulties due to unexpected periods of high water; and concerns for migrating waterfowl during the fall of 1986, and waterfowl nesting at the site in the spring of 1987. Furthermore, planning detailed field strategies was made difficult due to rapid erosion and ever changing shoreline conditions. For example, plans to investigate a cluster of bone near the partially exposed roots of a red oak became obsolete when the tree toppled only days before the 1987 field work, uplifting several meters of site in its root system.

Perhaps the most important problem with these investigations concerns sampling. Because most of the site has already been destroyed, only a small possible sample remains. As this is on the highest portion of the site, it may not be representative of remains and activities for the entire original site. In addition, these investigations were biased by being restricted to areas imminently threatened with erosion. Consequently, of the remaining portion of the site, only the eastern end was sampled.

The 1986 and 1987 investigations document intensive utilization of the McIlvaine site by prehistoric and early historic groups. Furthermore, it was found that in-situ cultural deposits exist as pit features and as relatively stratified debris layers within the topsoil. The materials recovered contribute to our knowledge of diagnostic type varieties and reveal some of the activities undertaken at this site by its prehistoric occupants. Unfortunately, preserved organic remains of prehistoric age were virtually non-existent, a reflection of the highly acidic soils that make up the site. By contrast, recovered human bone was well-preserved, and thus suggests relatively recent age. This, coupled with historic accounts of Winnebago encampments in the immediate vicinity of the site during the early 19th century and finds of contemporary white-clay pipe fragments, suggests that the burials were of historic age and may be attributable to the Winnebago.

Despite the fact that the majority of the McIlvaine site has been destroyed by erosion, the small remaining portion has the potential to yield important information about the upper Mississippi River floodplain utilization over the past 3,000 years or so. For example, some carbonized plant remains were recovered from prehistoric pit features, and analysis could identify wood species thus increasing our knowledge of floodplain environmental conditions. The charred plant material found in association with diagnostic artifacts could also be assayed for radiocarbon dating thereby refining later prehistoric chronologies for the region. Furthermore, analysis of tool varieties recovered with various component deposits would add much to our understanding of activities undertaken at the site, and by inference possibly indicate seasons of occupation. Finally, the site is known to have contained burials of Native Americans that likely can be attributed to historic Winnebago groups in the early 19th century, and it is quite possible that additional graves exist at the site.

These considerations put forth, recommendations for protection of the remaining portion of the island are in order. This could be done by rip-rapping the entire shoreline, or using the remaining island portion as a core for artificially expanding the island. The latter option agrees with wildlife management plans for Lake Onalaska, and concern for human remains. If stabilization/protection is not possible, it seems the only recourse is complete mitigation through excavation. Salvage excavations would collect additional data from the site but is the least preferred option of this time for a number of reasons. First, this would result in the complete destruction of the remaining island. Secondly, potential scheduling uncertainties due to water level fluctuation inhibits excavation planning. Thirdly, if preserved, future techniques of recovery and analysis would undoubtedly gain more information if applied to this site. Finally, if the site does harbor additional graves, these would be disturbed by the excavation.

INTRODUCTION

It has been 50 years since the completion of lock and dam 7 of the upper Mississippi River near the cities of Onalaska and La Crosse, Wisconsin. The day the roller-gates closed in 1937 marked perhaps the most abrupt change to this portion of the river since nearly unimaginable floods swept through the valley during the melting of the last continental ice sheet 10,000 years ago. The principle effect on the environment from lock and dam 7 was the artificially induced transformation of a vast floodplain into a permanent reservoir called Lake Onalaska. (Figure 1).

This lake occupies thousands of acres of former Mississippi River floodplain and the associated delta of the tributary Black River. The bottomland had been characterized by a mosaic of lowland forests, sedge meadows, marshes, ponds, lakes, and sloughs that had developed over millenium; controlled by natural forces that dictated the flow of water and sediment transport between extremes of flood and drought. Also encompassed within the lowland were a series of raised landforms that subsequently became islands in Lake Onalaska. The largest of these rises are outlier Pleistocene terraces such as Red Oak Ridge, Brice Prairie, and Rosebud Island (see Figure 1). In addition, are a number of smaller knolls that had probably become accentuated as sand dunes during the warm/dry Altithermal about 7,000 years ago.

The higher landforms within this broad floodplain would have offered ideal respites for those utilizing natural resources of the local environment. Before lock and dam 7, the larger outlier teraces were settled and farmed by Euro-American families; while an early government refuge management station was built on the easternmost sand-knoll, adjacent to a notable widening of the Black River channel called "Rice Lake." Archaeological evidence from all of the islands in Lake Onalaska indicates that the rises were also used by Native Americans as early as 3,000 years ago, and continued to be occupied into the American fur-trade era of the first half of the 19th century.

With the completion of lock and dam 7 and the creation of Lake Onalaska, the raised landforms were transformed into islands and began to erode almost immediately due to higher water levels and wave action. The rapid rate of erosion is born out by the fact that several of the islands have completely disappeared during the intervening 50 years. Those former rises are now marked by overturned tree snags and shallow shoals. The remaining islands exhibit vertical sand banks and undercut tree root systems, leading to toppling that in turn accelerates erosion.

It wasn't long after erosion of the Lake Onalska islands began that hunters, boaters, campers, etc. began to find prehistoric artifacts on their shores. By the 1950's collecting artifacts from the islands had become a popular past-time and was reported with articles in local papers such as the La Crosse Tribune, including one issue with a photograph of the local game warden seining for artifacts (D. Hammes personal communication). (Mr. Hammes also recently reported that he had found human skeletal remains along the eroded shore of McIlvaine Island nearly 20 years ago.) Collecting continues to this day, as the islands continue to erode and expose artifacts.

Until 1983, no professional archaeological study of the island sites in Lake Onalaska had been undertaken. At that time, the newly formed Mississippi Valley Archaeology Center began to report sites from the islands based on collector information and visits to the sites (Boszhardt 1986). Subsequently, the St. Paul District Corps of Engineers has sponsored geoarchaeological

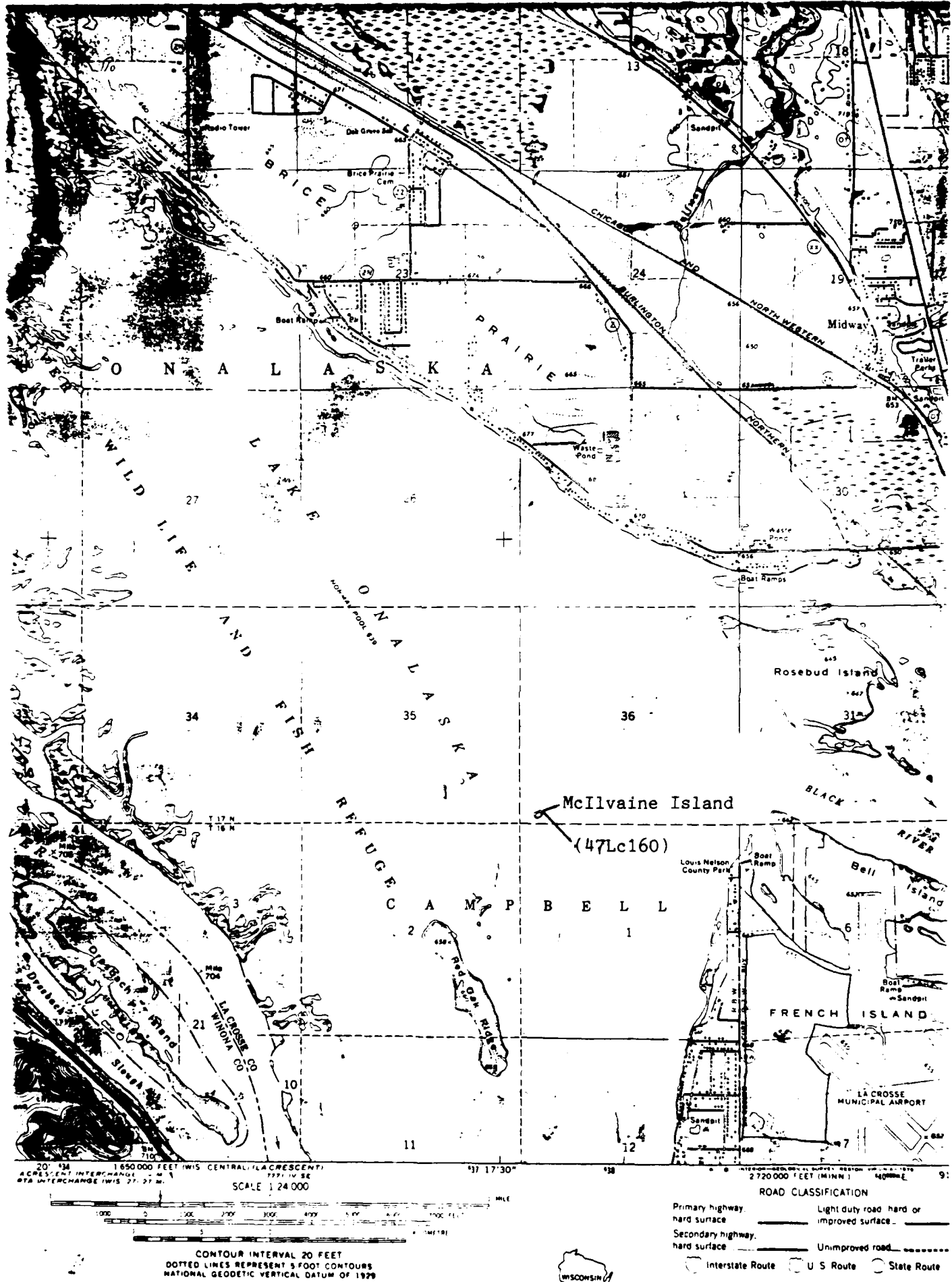


Figure 1: Location of Project Area.

investigations at some of the sites (Overstreet et al. 1986), and has begun a long range cultural resources management study of pool 7.

In late spring of 1986, following the annual spring high water surge of the Mississippi River, area residents visited the McIlvaine Island site (47Lc160). During their visit, the party noticed several bones along the eroding northeast edge of the island, and found a human mandible in the water to the southeast. The mandible was brought to the Mississippi Valley Archaeology Center, and the U.S. Fish and Wildlife Service (owner of the island) was immediately notified. A reconnaissance visit to the site was made soon thereafter with the party that had reported the bones, local Fish and Wildlife Service personnel, and the author. During this visit the location of the bone find was pointed out, and two human pelvic fragments and a femur section were recovered from partially disturbed contexts threatened with imminent erosion. In addition, an assessment of areas most susceptible to near-future erosion was made.

Faced with a situation of human remains eroding from this site the U.S. Fish and Wildlife Service quickly acted by sponsoring a small scale archaeological testing project. This project was directed to excavate the location of the bone find at the northeast edge of the island, and to clean bank cuts along the severely eroding adjacent shore and southern shore in order to determine if additional burials or other significant archaeological remains existed and were threatened by erosion (see Appendix A). The 1986 excavations did not locate in-situ burial remains, but did identify and sample six prehistoric storage/refuse pit features in 14 meters of bank cut. These features indicated that the site harbors potentially significant prehistoric habitation deposits in addition to burials, and all were clearly endangered.

The Fish and Wildlife Service meanwhile proposed rip-rapping the north bank of the island in order to stabilize the erosion. Unfortunately, during the winter of 1986-87 ice conditions on Lake Onalaska precluded trucking rip-rap to the site.

About that time the St. Paul District Corps of Engineers offered to sponsor Phase III excavations at the perilous eastern end of the site and a Data Recovery Plan was subsequently developed (see Appendix B). The field work for this project was undertaken in the summer of 1987. These latter excavations covered an area of approximately 2 x 6 m. Within this area, an additional six prehistoric pit features were located and excavated. Added to the six located during 1986, the total identified in this small eastern portion of the site is 12, indicating a high density of pit features.

While the material content of these features was unspectacular (and none could be classified as burial pits), their density indicates intensive use of the site. Recovered diagnostic artifacts reveal that the site was utilized virtually continuously from the end of the Archaic until the present day. Included within that approximately 3,000 year-span of time were remains of Late Archaic; Early, Middle, and Late Woodland; Oneota, and Middle and Late Historic components.

Based on artifacts associated with the pit features it is apparent that most represent Woodland Tradition activities, though a few are attributed to a more recent Oneota occupation. The well-preserved condition of the human bone suggests that the burials that had eroded represent either late prehistoric Oneota or early 19th century historic Native American internments. Historical documents strongly suggest that the site was occupied by a Winnebago group during the first half of the 19th century, and it may be that the human remains can be affiliated with that group.

This report reviews the environmental and historical setting, previous archaeological knowledge of the site, and describes the methods and results of the two recent excavations in 1986 and 1987. Although the contexts of the burials had been destroyed by erosion, a high concentration of prehistoric storage/refuse pit features were found, and vertical position of diagnostic artifacts strongly suggests that the overlying general camp debris is essentially stratified. In sum, this site, though small and imminently endangered with destruction, harbors potentially significant cultural deposits. Consequently, recommendations for stabilization or as a less preferred option, complete mitigation, are offered.

ENVIRONMENTAL BACKGROUND

The McIlvaine site is a small island (25 m E-W x 5 m N-S) located in the extreme southwest corner of Sec. 36 of T17N R8W of La Crosse County, Wisconsin (see Figure 1, Figure 2). The island is within Lake Onalaska, a large artificial body of water created upon the completion of lock and dam 7 on the main channel Mississippi and "The Lake Onalaska Spillway" on the Black River in 1937. Prior to this sudden alteration in water level, the site was a sandy rise in a broad floodplain of the upper Mississippi just below a delta formed by the confluence of the Black River (see Figures 6 and 7). To the northeast of the McIlvaine site, lay a natural, shallow widening of major channels through the Black River delta. This wider body of water was originally called Black River Lake, and later Rice Lake -- presumably because wild rice formerly thrived there.

Archaeological research has shown that over the last 3,000 years or so, beginning at the end of the Archaic stage and encompassing cultures of the Woodland and subsequent Oneota Traditions, prehistoric peoples utilized floodplain resources of the upper Mississippi River -- at least seasonally. This is based upon the fact that numerous raised land forms within or adjacent to the bottoms have been found to contain remains of these cultures (see Boszhardt 1986; Theler 1987). This pattern was altered substantially with Euro-American claim and settlement of the region; however, the floodplain continued to provide direct subsistence for many until the 1930's.

Historically, before the lock and dam system, the floodplain continued to be utilized by Native Americans. After about 1860 it became settled by Euro-American farm families, while related industries based on commercial and recreational fishing, trapping, and in some locations clamming developed. With the Great Depression-era purchase of the floodplain lands by the federal government and construction of the locks and dams along the upper Mississippi came an abrupt end to certain facets of river life. Since that time, the upper river continues to be used by many groups with varying interests. Principal among these is commercial navigation, an industry that inspired artificial alteration of the Mississippi River beginning as early as 1822 (U.S. Army Engineers 1978:1-2). The dominating influence of the commercial navigation industry is exemplified in the development and implementation of the Nine-Foot Navigation Project, and the fact that major improvements to increase commercial navigation continue to be planned and implemented. In addition, sport fishing, hunting, and recreational boating today support a healthy tourist industry along the river. Finally, the backwater areas of the upper Mississippi have been incorporated into a huge national wildlife refuge. Commercial fishing and trapping enterprises continue on the river, although in apparent decreasing importance.

Geology

The project area lies within a section of the floodplain of the upper Mississippi River where the tributary Black River has formed an extensive delta. From pool 6 to pool 12, and encompassing pool 7, the upper Mississippi has dissected a deep trench into the unglaciated Driftless Area. Consequently, trench walls are steep and high with deep, mature tributary valleys locally called "coulees" (Martin 1965). Synthesis reconstructions of the sequence of



Figure 2: McIlvaine Island in late spring, 1986. Note stumps in water to right, showing former extent of land. Also furthest tree to the right on the island is the red oak that was used as the 1986 datum, but had toppled in early 1987. View to North Northwest.

events that led to the formation of the upper Mississippi River trench have been detailed by others (eg. Knox 1983, Church 1985), and are only briefly summarized here. Prior to the beginning of the Pleistocene nearly 2.5-3 million years ago, the Mississippi flowed as a stream atop a relatively flat peneplain of sandstone and limestone bedrock. In the pool 7 section of the upper Mississippi the bedrock consists of Cambrian age, Jordan sandstone overlain by Ordovician age, Prairie du Chien limestone.

Within the Pleistocene, and during episodes of glacial melting, tremendous volumes of water were drained by the Mississippi, resulting in the deep downcutting of the trench. In the section of the river now occupied by pools 6, 7 and 8, the trench is unusually wide (5-10 mi.). This is almost certainly due in part to the fact that the trench here cut into soft Cambrian sandstone. As the volume of meltwater let up, mass deposits of sand and gravel outwash were deposited, partially re-filling the trench.

With the retreat of the last major glacial advance (Woodfordian), the Mississippi once again was subject to repeated flooding that filled the trench bluff to bluff, and spilled into side valleys. Such episodes occurred most drastically with sudden releases of impounded water from Glacial Lakes Superior and Agassiz between 11,500-9,500 BP. As the waters subsided, the river constricted to smaller channels and proceeded to downcut into sand and gravel deposits that were its former bed. In places, especially along the east side of the wide trench in pool 7, benches of the sand and gravel were left as terraces above the newer, restricted floodplain. Pool 7 contains several cut-off or outlier Pleistocene terraces such as Red Oak Ridge, Brice Prairie, French Island, and Rosebud Island.

During the post-glacial Holocene epoch of the last 10,000 years the upper Mississippi trench has been subjected to deposition of finer sediments from tributary run off. Varying climatic regimes during this epoch have undoubtedly affected the amount of sediment deposition, and during at least one period led to sand dune activity on the terraces. Such activity was likely predominant during the early mid-Holocene warm/dry period, and may be responsible for the formation of several small sand rises in the pool 7 floodplain including what became McIlvaine Island (Overstreet et al. 1986).

Climate

Reconstruction of Holocene climate for the Driftless Area has been advanced by pollen studies (Davis 1977) and more recently by analysis of flood histories as documented in alluvial deposits (Knox 1983). These data sets compliment one another and form the basis for the following brief chronology.

During the northerly retreat of the Laurentian ice sheet from surrounding regions, a dry Pacific air-flow dominated the region. This contributed to the disappearance of boreal forest, spruce and fir from the Driftless Area by about 9500 BP. The Pacific air-flow continued for several millenium, effectively blocking moist tropical air from reaching the region. This culminated around 7200 BP with the warmest and driest period of the Holocene -- the Altithermal. It is likely that the dune fields on the nearby Amsterdam and Onalaska terraces were most active during the Mid-Holocene Altithermal (Knox in Sasso et al. 1985). By about 6000 BP, and coinciding with the final northward melting of the Laurentian ice mass, the Pacific air pattern weakened allowing moisture-laden Gulf air to penetrate increasingly to

this region. By 4500 BP increased moisture in the Driftless Area had reached a stage where peat deposits were established. Since 3000 BP the range of climatic variability has been "modest" compared to early Holocene shifts. However, noticeable increases and decreases in the extent of flooding have been documented, and cooler temperatures have prevailed since about 2000 years ago.

Vegetation and Fauna

Reconstruction of the pre-settlement vegetation of the project environs indicates that the area supported three major types of vegetation communities. These included prairie, lowland hardwoods, and marsh or wet prairie (Finley 1976).

The sandy terraces were dominated by prairie communities, as is reflected in the modern name for nearby, "Brice Prairie." The predominant vegetation types represented in the prairie were grasses and forbs. Animals native to this habitat included moles, mice, skunks, and badgers (Finley 1976; Curtis 1959:277-282).

The vegetation of the floodplains consisted of wet prairies, marshlands, and lowland forests. The soils in these areas are characterized by high organic and nutrient content. A gley layer two to four feet below the surface serves to block drainage within the soil. Sedge greases and other wetland-adapted vegetation, such as water lily, lotus and arrowleaf predominate in these marshland environments. Historic records suggest the presence of wild rice in some of these wetland areas; notably Rice Lake -- formerly located immediately east of the McIlvaine site and now inundated by Lake Onalaska. In fact, late prehistoric Oneota sites on the adjacent terraces have yielded charred wild rice kernels (see Stevenson in Sasso et al. 1985). The lowland floodplain environment provided habitat for numerous faunal resources, including beaver, muskrat, fish, shellfish, and waterfowl.

The lowland forests consisted primarily of species such as willow, silver maple, box elder, ash, elm, cottonwood, and river birch (Finley 1976). Curtis (1959:166) notes that the soils underlying such lowland forests are characterized by "alternating bands or lenses of sand, silt, clay or gravel," representing Holocene soil aggradation of the floodplains. It is likely that the raised sandy landforms encompassed by the floodplain would have supported a more mesic oak savanna vegetation community, as they continue to.

The floodplain environment today has been extensively altered due to the construction of lock and dam 7. Nevertheless, a reasonable picture of the late prehistoric environment may be derived through the analysis of early historic documents, maps, and survey records. Gallagher and Stevenson (1982) utilized such information to develop an environmental reconstruction of the La Crosse/Onalaska area. This reconstruction can be utilized for economic interpretation of prehistoric site locations within the area. Soils, vegetation, and faunal distributions were analyzed to define zones of economic resources which would have been available to the prehistoric inhabitants of this region. These zones include open water, wet bottomlands, dry bottomlands, savanna, sandy prairie, and dry upland (see Gallagher and Stevenson 1982). All of these zones with the exception of dry uplands would have been immediately available to occupants of the McIlvaine site, and the dry uplands would have only been a several hour excursion away.

CULTURE HISTORY BACKGROUND

Prehistory: A Chronology of Diagnostic Artifacts

A relatively accurate diagnostic artifact chronology has been developed for the past 4,000 years of southwestern Wisconsin. This chronology is based in large part on relative stratigraphic positioning of projectile points and ceramics in rockshelter sites (see Wittry 1959), and radiocarbon dated components at open air sites. A boost to the refinement of the late prehistoric chronology was made through recent investigations of floodplain sites in pool 10 (see Boszhardt 1983, Stoltman 1986, Theler 1986, 1987).

Exactly when people first utilized the floodplain of the upper Mississippi River is unknown. Certainly occupation during the terminal Pleistocene glacial outwash floods of 11500-9500 BP would have been virtually impossible. However, fluted points representing Paleo-Indian activities have been reported from both the east and west margins of the upper Mississippi trench demonstrating human presence since at least 12,000-10,000 BP (Boszhardt 1989a). For example, a Clovis point has been reported from a high island in pool 6 (Tr85), a short distance above Lake Onalaska. Furthermore, utilization of the floodplain by Early Archaic groups may be inferred from the apparent discovery of 8-6,000 year old buried surfaces in the floodplain of navigation pool 10 (Overstreet 1984).

Based on investigations throughout the upper Mississippi drainage, it is known that the floodplain itself has been utilized at least since the Late Archaic ca. 4-5,000 years ago (see Boszhardt 1986). This is based on a relatively low number of Late Archaic side-notched (Raddatz/Osceola) or expanding stemmed (Durst) projectile points, and apparent non-ceramic horizons below Early Woodland horizons at stratified sites (see Theler 1987). Interestingly, this earliest demonstrated occupation of the floodplain coincides with the climatic shift from the warm/dry Altithermal into more moist, cool conditions that prevailed during the late Holocene. It is likely that floodplain resources became substantially more bountiful with this climatic change.

Data indicate that the floodplain was occupied continuously through the subsequent Woodland stages, although more prevalent during specific periods. This is based on quantities of recovered diagnostic points and ceramics. Because many floodplain sites were sealed by flood sediments, and not subjected to historic cultivation, the ceramic assemblages from these sites are often substantially more complete and informative than assemblages from most non-floodplain open air sites.

For example, numerous sections of Marion Thick vessels, or its decorated variety, Dane Punched, have been found at floodplain sites in southwestern Wisconsin. Although not directly dated, they compare to the earliest ceramics in the Midwest that have been dated from about 500-100 B.C. (see Boszhardt et al. 1986). These vessels are thick-walled, with coarse grit-tempering, frequently exhibiting straight walls and flat bottoms. The exterior surface is inevitably covered with impressions of thick cordage from a cord-wrapped paddle, and the interior surface is unique among Woodland pottery in also exhibiting cordage impressions. The decoration that segregates Dane Punched from Marion Thick consists of bold fingernail impressions that often form vertical columns. Examples of this decorated version from the Minnesota side of pool 6, have been called La Moille Thick (Anfinson 1979). The straight-stemmed, Kramer point has been associated with Marion components in the Midwest (see Munson 1966, Linder 1974, Boszhardt et al. 1986). In southwestern Wisconsin, these diagnostics have

been used to tentatively define a Ryan Phase (Benn 1979, Boszhardt 1982).

There appears to have been a rather dramatic shift in ceramic manufacture about the time of Christ in the southwestern Wisconsin. Sealed components that date from about A.D. 0-100 in pool 10 contain relatively thin-walled, sand-tempered, globular-shaped vessels. Decorative varieties include combinations of fine incising, fingernail impressions, and cord-wrap stick impressions on cord-roughened and sometimes smoothed exterior surfaces. Commonly, fingernail or cord-wrap stick impressions notch the interior of the vessel lip, and a row of punctates from either the exterior or interior surface forming opposite walled "bosses or nodes" is frequent below the lip. Directly associated with these ceramics are Waubesa Contracting Stemmed points (Theler 1987, Boszhardt et al. 1986). Together the sand-tempered ceramics, Waubesa points, and clustering of radiocarbon dates have formed the basis for the definition of the Prairie Phase (Stoltman 1986, Boszhardt et al. 1986).

About A.D. 100 Prairie Phase materials seem to be replaced by distinct ceramics that mark the subsequent Trempealeau Phase (Stoltman 1979). Trempealeau Phase vessels actually more closely resemble Ryan Phase ceramics than those of the Prairie Phase. For example, the paste of Trempealeau Phase pottery includes coarse grit-tempering rather than sand, and the walls are thick and straight. However, in contrast to the Early Woodland, Ryan Phase ceramics, the upper half of Trempealeau Phase pots were usually smoothed prior to the application of bold tool stamp decorations. Tools most commonly used include notched or "dentate" stamps, and cord-wrap sticks. In addition, some Trempealeau Phase vessels had distinctive slanted or bevelled lips, and bold punctate/bosses frequently form rows below the lip. Trempealeau Phase ceramics represent a regional expression of Middle Woodland pottery that is commonly referred to as Havana ware. Broad-bladed and notched Snyder or Manker points are affiliated with these ceramics (see Stoltman 1979).

Examples of Havana ware are less commonly found at floodplain sites than Prairie Phase and subsequent Millville Phase ceramics. The Trempealeau Phase may have been short lived in Wisconsin (see Theler and Stevenson 1984), and transformed into the Millville Phase with its distinctive Linn ware ceramics and expanding stemmed (Monona) projectile points (Stoltman 1979). Linn ware vessels resemble Prairie Phase pots in globular-shape and relatively thin walls; but incorporate fine grit rather than sand-temper, and utilize different decorative techniques. For example, fine dentate stamping and finer cord-wrap stick impressions of Linn ware pots follows from the preceeding Trempealeau Phase. In addition Linn ware vessels do not have rows of punctations/bosses below the lip, but do include variations with exterior lip notching called "linear stamping." The upper half of the exterior surface is also always smoothed on Linn ware vessels. Radiocarbon evidence suggests that the Millville Phase lasted from about A.D. 300-700.

At 700 A.D. an innovative decoration technique appeared on Linn ware pots, and actually began a transformation into the dominant style of the subsequent Late Woodland, Keyes Phase. Around A.D. 700, pots that are essentially Linn ware, begin to incorporate cord impressions and/or rocker stamping as decoration. These variations form the basis of defining Lane Farm types. About the same time, small triangular projectile points appear, and become wide spread so quickly that they may represent the discovery of bow and arrow technology (Benn 1979). Lane Farm pottery apparently only lasted for about a century, but triangular points persisted as the dominant form until Euro-American contact nearly eight centuries later.

As implied above, cord impressing that was first seen as a decorative technique on Lane Farm vessels soon developed into a distinctive style of pottery that denotes the more recent Madison ware. Madison pots are also made of fine-grit tempered paste, but are finer than Linn ware in having thinner walls. Also vessel form shifted from conoidal bases to more round, globular shape, and some vessels became larger. Cord impressions are more complex on Madison ware pots including actual woven fabrics, and are distinct from Lane Farm cord-impressions in being placed over a cord-roughened surface. The cord twist used for the cord roughening and impressions also is more complex and tighter in Madison ware. The transformation of ceramics into Madison ware not only coincides with the adaptation of triangular points, but also marks the period of effigy mound construction, and soon thereafter the earliest corn horticulture in southwestern Wisconsin. All of these markers distinguish this as the Keyes Phase of the Late Woodland stage, lasting from about A.D. 800-1200.

Finally, around A.D. 1200-1300, distinctive shell-tempered pottery marks the introduction of the Oneota culture to the upper Midwest. Although the origins of Oneota are much contested, it is apparent that around A.D. 1000 agricultural efforts began to intensify, and influence from complex Mississippian societies to the south reached Late Woodland groups in the upper Midwest. These events approximate the emergence of groups with an innovative material culture known as Oneota or Upper Mississippian. As noted above, Oneota ceramics are distinct from Woodland in using crushed shell as temper rather than sand or grit.

Research in the La Crosse/Onalaska area has identified this region as a location of intensive Oneota activity from about A.D. 1300-1650 (Stevenson 1984, Sasso et al. 1985). In fact, with the aid of numerous radiocarbon dates from local sites, a chronological development of Oneota ceramics has been identified in this region. In essence, from about A.D. 1300-1400 Oneota ceramics conform generally to the Blue Earth Phase type, Perrot Punctated (Hall 1962), with notching on the interior rim and punctations forming linear borders to zones of tool trails. From about A.D. 1400-1450 changes in decoration occurred so that Oneota pottery dating after A.D. 1450 can be classified as variations of the Orr Phase type, Allamakee Trilled (Wedel 1959). This later type differs from the Blue Earth Phase type Perrot Punctated in that notches are placed on the lip top rather than the interior, and punctates are used to fill zones rather than as borders.

Historic Era

"In accordance with instructions dated "Head Qurs. Fort Crawford, W.T. March 30, 1845, I proceeded with Co. "C" 1st. Infy. on board of the steamer Otter and removed several Indians from the east bank of the Mississippi and some also from the islands on the west wide, ordering them never again to return. On arriving at "Prairie la Crosse," I sent for the principal chief "De Korah," who in learning my object sent immediately for all the Winnebagos who were on the island in a large lake of about 8 or 10 miles in extent and formed by the Black River, and promised that his people should be down in 2 days, which they failed to do owing to the rough state of the weather. I then

obtained the use of two boats carrying in all 17 men, and examined the islands to the distance of about 6 miles, removing in all six lodges... I am satisfied since my departure that all those Indians have returned..."
(Barry to Abercrombie April 5, 1845, in Bloom 1975:814-815).

The historic era for the upper Mississippi River began with the first written accounts of French explorers, traders, and missionaries in the mid-late 17th century (C. Mason 1983). The earliest records from Hennepin, Perrot, and the like contain brief overview summaries of the general character of the river basin and its Native American inhabitants. Some details were recorded for more prominent geographical locations or places of economic importance such as Trempealeau Mountain and Prairie du Chien, but few specifics were noted for more typical settings of Mississippi River floodplain until the 19th century.

Although lacking detail, the confluence of the Black and Mississippi Rivers appears to have been referred to very early in French documents for this region (Kellogg 1921, C. Mason 1983). These accounts were recorded in large part because of the mysterious disappearance of the Jesuit missionary Rene' Menard in 1661. Menard had been attempting to reach a refugee group of Huron who are reported to have established a village at the headwaters of the Black River. The records further indicate that during the preceeding years the Huron (along with Ottawa and Petun refugees of the Iriquois war) had established a village at Prairie Island (perhaps near Winona, Minnesota?). However, the Huron apparently antagonized their indigenous Eastern Dakota Sioux hosts and chose to return to the east side of the Mississippi. The accounts reveal that the Huron selected the Black River as the route eastward after having become familiar with it during their stay at Prairie Island. There is some question as to whether the Huron actually followed the Black or the Chippewa River, but if they chose the Black, as indicated in the accounts, it is possible that the refugee Huron/Ottawa/Petun passed by, if not camped on the McIlvaine Site in the late 1650's (see also Wedel 1986:6-11). To date, the only artifacts known from this region that represent this Early Historic period is a single Jesuit ring from French Island and a possible French bottle fragment worked into a scaper from Brice Prairie, both in possession of local collectors.

The Black River and its junction with the Mississippi is rarely referred to in other accounts from the French and British Regimes (up until ca. 1800), although it is depicted with relative accuracy on French Maps as early as Coronelli's 1688 work (Tucker 1942). On this map, Cornelli described the Black ("Rui Noire") as having been named "chabadeba" or "chabaoudeba" by the "Nadouessions ou Issati" (Eastern Dakota/Santee Sioux). These and other documents re-affirm the ancestral ties of the Santee with this portion of the upper Mississippi. However, as noted above refugee groups from the east were visiting the region early on, and various other Native American groups made claim to this area throughout the 17th and 18th centuries (see C. Mason 1983:69-87).

Archaeologically, there have been very few reports of artifact finds dating from the late 17th century and through the 18th century in the region encompassing the Black River/Mississippi confluence. One exception to this is a catlinite tomahawk pipe found on the western edge of French Island (Lc251). The virtual absence of remains for this period likely reflects low population, and is in all probability an important factor in the lack of contemporary historic documentation of inhabitants in this area.

By the beginning of the 19th century a series of circumstances resulted in

more frequent and detailed records for the Black/Mississippi confluence. These begin with the establishment of Winnebago settlements in the area around 1790 (Draper 1907:297; Gale 1867:81). The Winnebago presence soon attracted Euro-American fur traders, although the market fluctuated during transfer of control from British to American during the war of 1812. Furthermore, shortly after 1800, vast pineries were identified up the Black River and lumbering expeditions were started there soon after the war of 1812. Finally, following the Black Hawk War (1832), Winnebago and other Native American groups were pressured to cede the land to the U.S. Government. Treaty cessions completed in 1837, the U.S. Government began forcibly removing the Winnebago to western reservations, and surveying the land for public sale during the 1840's (see Boszhardt 1989b).

Zebulon Pike's narrative of his 1805 expedition up the Mississippi River only briefly mentions the Black River (1966:19), recording its mouth as being 200 yards wide and a river "on which the traders frequently winter with the Puants and Fols Avoins" referring to Winnebago and Menominee respectively (1966 Appendix to Part I:48). The map produced from Pike's expedition also shows the mouth of the Black River, and adds a notation stating "Traders have wintered 130 miles up it, with the Winnebago, Folles Avoines..." (Tucker 1942: Plate XXXII).

Augustin Grignon is reported to have established a trading post at the mouth of the Black River in 1821 (Thwaites 1911:236). Thwaites assumed that the Grignon post was on Hammond's Chute in the Black River Delta, interpreting that channel to have been an earlier outlet of the Black River. However, as early as 1817, Long had recorded the main mouth of the Black River at its present location near the City of La Crosse (1978:54). That Grignon was trading with the Winnebago is uncertain, but there is ample record of Winnebago encampments at La Crosse beginning in 1817 with Long, 1820 by Leavenworth (see Zanger 1980a) and throughout the later 1820's and 1830's (see Boszhardt 1989b). Specific records of participation of these Winnebago in the fur-trade of the 1830's are recorded in account books maintained in the Green Bay and Prairie du Chien papers (SHSW Archives). Trading with the La Crosse Winnebago continued after the Treaty of 1837 into the early 1840's with specific accounts of Nathan Myrick (1881:341; see also Sanford and Hirschheimer 1951:18). In fact, there is record of several posts at Prairie La Crosse in the late 1830's, presumably to carry on trade with the Winnebago (Boszhardt 1989b). In 1841, H. J. B. Miller is recorded as having delivered provisions from H. L. Dousman of Prairie du Chien to Indians living on the Black River near Onalaska (Dolbier and Dolbier 1985:5). Also, Bunnell's recollection of his early days in this region mentions an attempt during the winter of 1842-43 by he and Nathan Myrick to reach the camp of One-Eyed Decorah on Broken Gun Slough (1898:227). One-Eyed Decorah was a relatively well-known Winnebago in La Crosse for this period, and thus the camp referred to on Broken Gun Slough was undoubtedly Winnebago. Furthermore, maps from 1839-1931 indicate that Broken Gun Slough was one of the channels of the Black River delta, and specifically one that paralleled the main channel of the Black River to also feed Rice Lake (see below).

The 1845 Barry account that opened this section on the Historic era also specifically documents Winnebago encampments on islands in a lake formed by the Black River, and is complimented by an account of an 1846 trader named Hatch who referred to an Indian camp on Black River Lake near where Onalaska now stands (Anonymous 1881:348). Rice Lake itself is the only large body of water along the Black River that could have been referred to as a lake, and consequently, there is little doubt that Black River Lake was an earlier name for Rice Lake.

In fact, the 1845 Government Land Office survey of the exterior boundaries of T17N R7W refers to this body of water as "Black River Lake." Given the ideal camp spot offered by the McIlvaine rise on the west side of Rice Lake, it is very possible that this site represents a location of some of the Winnebago camps noted above.

Logging of the Black River pineries began by 1817 as recorded by Long during his expedition up the Mississippi River (1978:55). A mill had been erected on the Black River by 1820 (Schoolcraft 1973:166), and the industry grew as land went into public sale (see Trygg 1964). Logging and related enterprises contributed significantly to the early economies of the cities of Onalaska and La Crosse until the 1890's when the Black River pineries were exhausted, and the local industry collapsed. Throughout this period logs were floated down the Black and corralled upon reaching the Mississippi floodplain to be sorted and guided into cribs at the saw mills of Onalaska and La Crosse. The cribbings and guide barriers, including retaining barriers along the northwest edge of Rice Lake are detailed on the Mississippi River Commission chart (1894) for this area.

Following official 1850's sale of the land by the Government Land Office there is no evidence for occupation of the rise that became McIlvaine Island until it was re-obtained by the government in 1928. During the interim eight decades, the land had transferred ownership from the John Gund Brewing Company and sold in 1918 to William Valiquette who died in 1922. Henry Valiquette as executor of William's estate sold the land to the government in 1928 (La Crosse County Land Title and Mapping Office). Accounts indicate that the cabin and field mapped on the rise in the early 1930's represent activities of game refuge managers. Recollections reveal that the cabin was built as a field station, with a primary objective to feed pheasants (Moore 1986). This station was abandoned following construction of lock and dam 7, although the cabin remained for several years and was used by sportsmen. Until the island was reported as an archaeological site in 1983 it was commonly known as Taylor Island.

Maps

Meaningful illustrations of the landforms and channels of the Black River delta begin with Joseph Nicollet's 1839 sketch maps of this portion of the upper Mississippi River (Figure 3). Although Nicollet did not himself venture up the Black River, he did symbolize a widening of the main channel of the Black River approximately where "Rice Lake" is located on later maps. Nicollet also sketched in two alternate channels of the Black River delta and labeled one "Broken Gun Slough."

The first map that accurately depicts Black River delta channels and Rice Lake, resulted from the 1845-46 Government Land Office survey of the Township 17 North, Range 9 West (Figure 4). This map shows the Lake being fed from the northwest by the "old channel" of the Black River and the "west branch." As noted earlier, contemporary accounts refer to the lake as "Black River Lake." Later maps show that the "old channel" is the modern main channel of the Black, and the "west branch" was more commonly referred to as "Broken Gun Slough."

From 1866-1869 the War Department sponsored surveys of the Mississippi River under the direction of G. K. Warren. These maps are relatively accurate for the main channel Mississippi, but distort other floodplain areas. The

Warren map section that covers the Black River delta does show various channels, and a widening where Rice Lake was located. It does not, however, label Broken Gun Slough nor show Red Oak Ridge -- a prominent floodplain feature. During the next decade a second set of maps was produced (based on the Warren survey), and used to mark improvements to the navigation channel (Figure 5). This second set of maps virtually duplicates the floodplain formations as they appeared on the Warren maps.

The 1894 Mississippi River Commission chart (#173) for this section of the upper Mississippi is the first detailed map encompassing the Black River delta that includes elevation contours (Figure 6). This chart clearly defines and labels Rice Lake, showing it being fed by a channel called "Gun Slough"; and shows a raised land form along the west margin of Rice Lake where the McIlvaine site is located. Gun Slough is likely the same channel that was called "Broken Gun Slough" in 1881 (Anonymous 1881:317) and as late as 1931 (see below).

In 1931 the U.S. Geological Survey produced a topographic map of La Crosse County (Figure 8). This map details the Black River delta including the position of "Broken Gun Slough." It does not show Rice Lake, but in its place shows an extensive marsh. This suggests that Rice Lake may have been filling in with post-settlement alluvium by that time. The McIlvaine site is not illustrated as a higher contour on this map, but does show up as a non-marsh spot adjacent to the Rice Lake marsh.

In advance of the creation of pool 7 of Lake Onalaska, the Corps of Engineers sponsored detailed surveys of the floodplain in the late 1920's-early 1930's. Resulting one foot contour maps also show Rice Lake and the raised land form that became McIlvaine Island. On this rise, one set of Corps flowage maps shows a cabin and garden patch with a road leading southward to the main floodplain road that led from French Island to Red Oak Ridge and Sun Set Point on the main channel Mississippi. The cabin is undoubtedly the old ranger station. Another map, the 1933 Corps of Engineers Land and Flowage Map, also shows the rise that became McIlvaine Island, and the road from the south, but does not detail the cabin and garden (Figure 9).

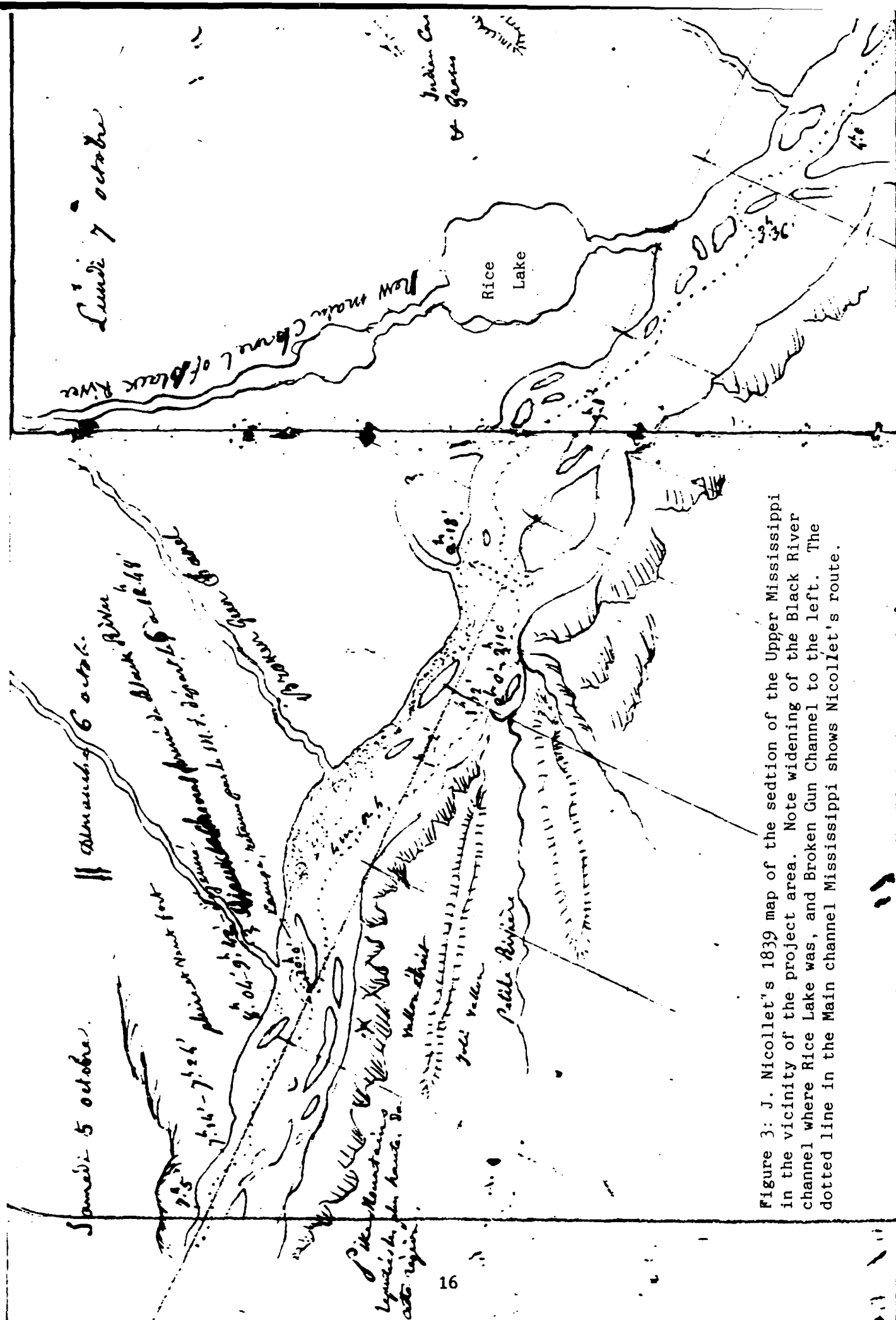


Figure 3: J. Nicollet's 1839 map of the section of the Upper Mississippi in the vicinity of the project area. Note widening of the Black River channel where Rice Lake was, and Broken Gun Channel to the left. The dotted line in the Main channel Mississippi shows Nicollet's route.

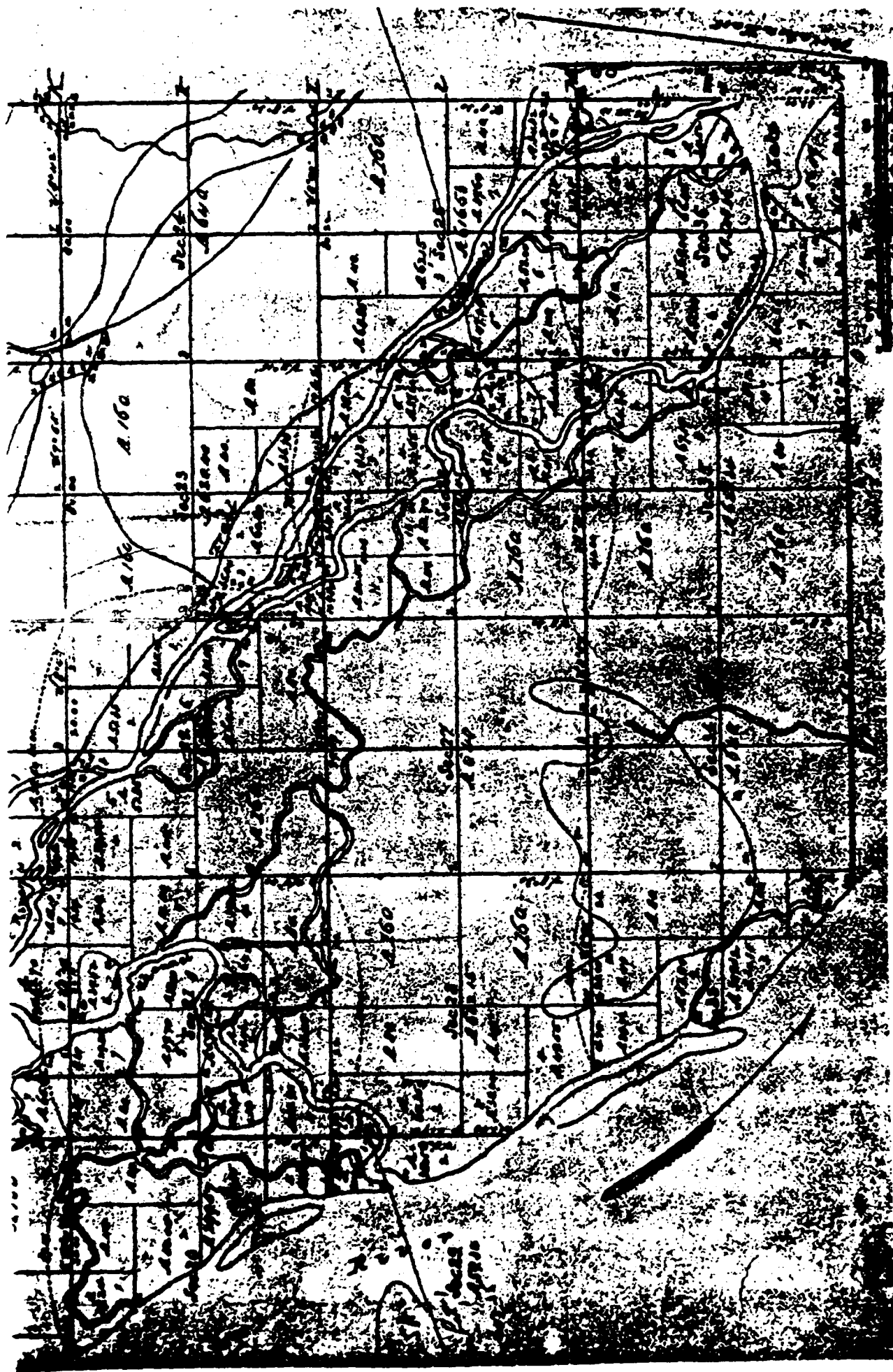


Figure 4: 1846 G.L.O. map of township encompassing the project area. Note the various channels of the Black River Delta that feed the Lake in the lower left. The "West Branch here appears to correlate with Broken Gun Slough on later maps. The Lake is Rice Lake then called Black River Lake.

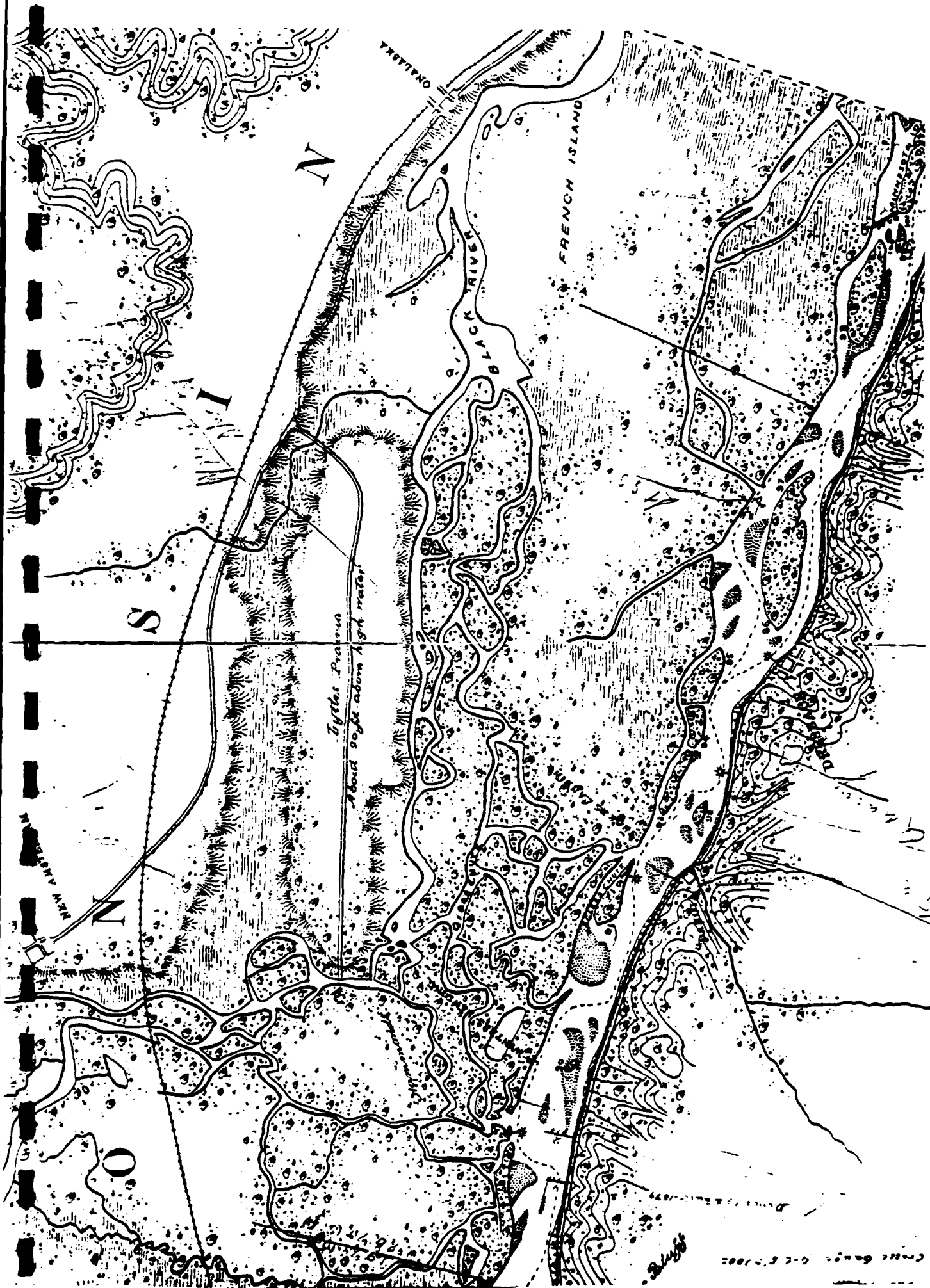


Figure 5: Corps of Engineers river improvement maps of the mid 1870's based on late 1860's Warren maps. Note Lytles Prairie is now Brice Prairie, and the widening of the Black River representing Rice Lake.

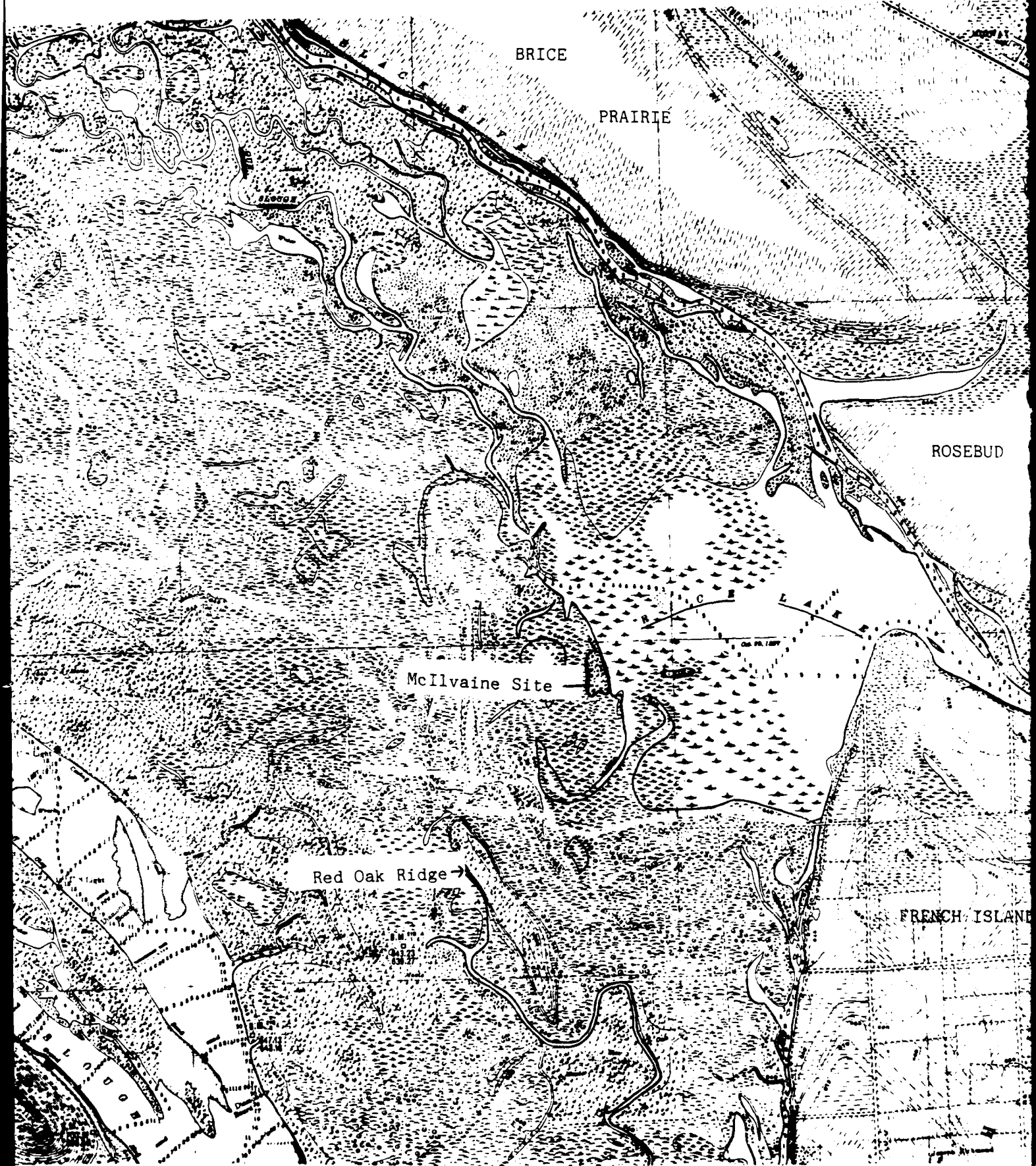


Figure 6: 1894 Mississippi River Commission chart No. 173 showing detail of floodplain encompassing the project area. Note the size of the raised landform that later became McIlvaine Island, and its proximity to Rice Lake. Also note Gun Slough feeding Rice Lake.



Figure 7: 1914 Map of project area environs based on contemporary Soil Survey (Whitson et al.).

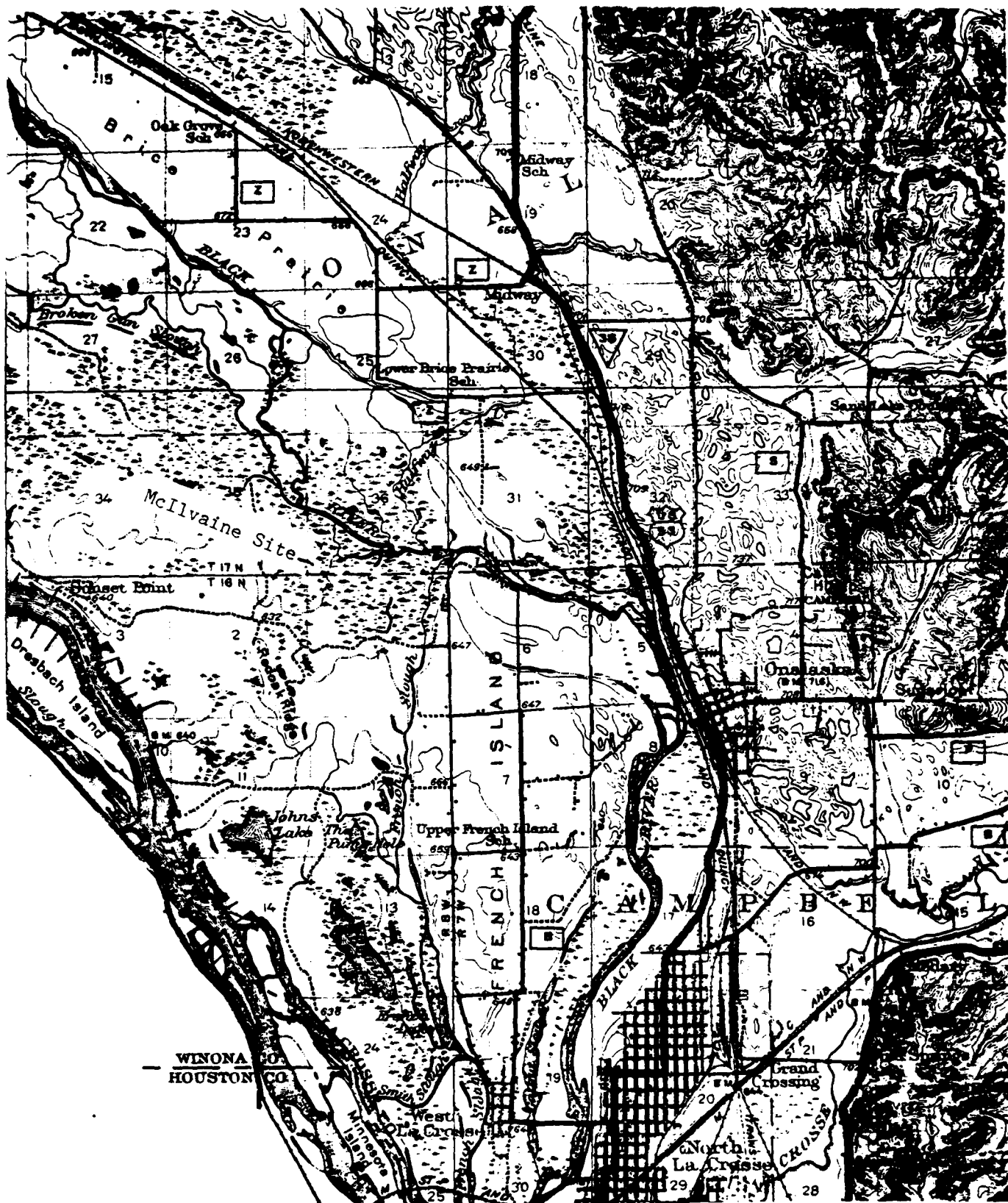


Figure 8: 1931 U.S.G.S. 15' topo map of portion of La Crosse County that encompasses project area. Note Broken Gun Slough feeding Rice Lake area that had become a marsh due to historic sedimentation.

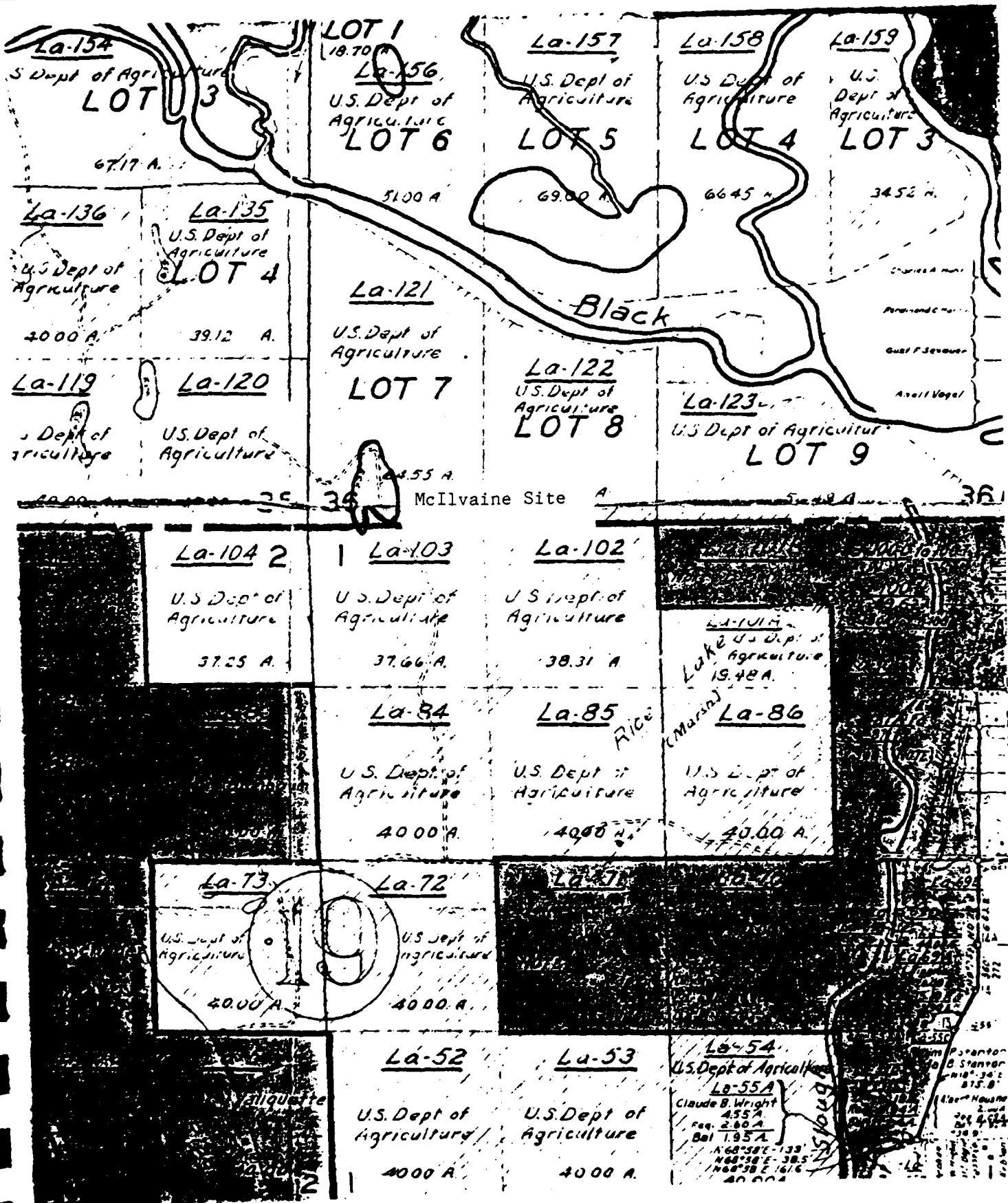


Figure 9: 1933 Flowage map showing ownership of floodplain lands and roads leading from French Island to farms on Red Oak Ridge, and a north spur to the McIlvaine site. Note the approximately 8 acre size of the site rise.

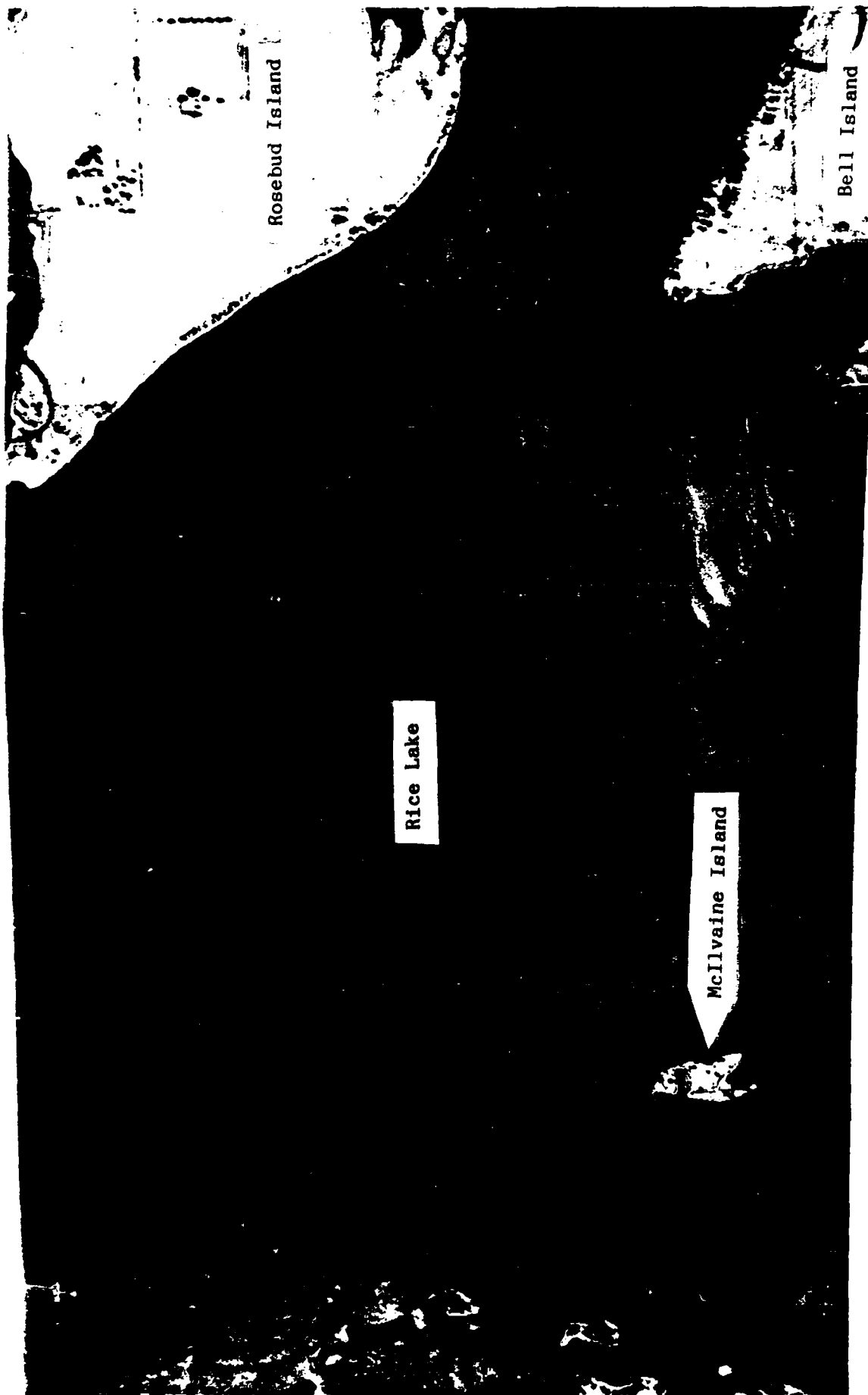


Figure 10: Aerial photograph of McIlvaine Island taken 9/4/38, or one year after the creation of Lake Onalaska. At that time the island encompassed approximately 8 acres. Note the several other small islands to the west and inundated Rice Lake to the east.



Figure 11: Aerial photograph of McIlvaine Island taken 9/30/67, or 30 years following the creation of Lake Onalaska. By this time the island had eroded to only about 1 acre and was being actively collected by amateurs. Note the similar erosion of the small islands to the west and the general silting in of Lake Onalaska. The north end of Red Oak Ridge appears in the lower left corner.

PREVIOUS INVESTIGATIONS

With the innundation of much of the floodplain from lock and dam #7, the higher land forms in Lake Onalaska such as McIlvaine Island and Red Oak Ridge became islands (Figure 10). These islands then began to erode from wave action compounded by un-natural sudden changes in the water level (Figure 11). Over the succeeding years vertical sand banks formed along the island shores, accelerating the erosion and causing displacement and exposure of artifacts. There are numerous reports of individuals having collected arrowheads and pottery fragments from the Lake Onalaska islands since the 1940's. In fact, a retired game warden recently stated that he had also found human bone eroding from the McIlvaine Island site in the 1960's. He contacted the County Coroner who visited the site, and proclaimed the skeletons to be Indian. He further suggested that the bones be re-buried further inland on the McIlvaine island which was done (D. Hammes personal communication).

In 1982, after receiving reports of collections from the islands, staff of the newly formed MVAC surveyed some of the islands in Lake Onalaska and officially reported for the first time sites on McIlvaine Island (47Lc160), Red Oak Ridge (47Lc161, 162 and 163) and Rosebud Island (47Lc178 and 179). Artifacts recovered from eroded contexts on these sites revealed activities of Early-Late Woodland manifestations (ca. 250 BC - AD 1,000) and a minor presence of the Oneota culture (AD 1300-1600; see Boszhardt 1986).

In 1985, the U.S. Fish and Wildlife Service and the St. Paul District Corps of Engineers sponsored further archaeological investigations of the island in Lake Onalaska. That study was undertaken by the Great Lakes Archaeological Research Center (Overstreet et al. 1986). The GLARC study combined archaeological testing and geomorphological sediment analysis (focusing on 47Lc163 at the north end of Red Oak Ridge). Several new sites were located including 47Lc204, 47Lc205, 47Lc206, 47Lc207 and 47Lc209 on Red Oak Ridge and 47Lc211, 47Lc212, and 47Lc213 on a group of small islands similar to the McIlvaine site north and east of Red Oak Ridge. In addition, the GLARC investigators visited the McIlvaine site. Cultural materials (primarily from Woodland cultures) were recovered from all of the sites, but the GLARC study (Overstreet et al. 1986) concluded that the sites on raised sandy land forms had likely been subjected to wind erosion several times during the Holocene, including rather late periods.

These proposed late Holocene deflation periods were seen as having disrupted the site contexts laying the artifacts into lag deposits (Overstreet et al. 1986:9, 53-61, Appendix B). Specific examples were given from investigations at Red Oak Ridge III (47Lc163) and the McIlvaine site (47Lc160) -- the latter of which was studied through extraction and particle size analysis of three core samples. In one of these cores a reported Middle Woodland point was found at a depth of about 1 meter (Overstreet et al. 1986:10). Specifically the GLARC report authors found little potential for remaining cultural significance in the Lake Onalaska sites. Referring to sites 47Lc160, 47Lc213, 47Lc211, and 47Lc212, they state: "It is quite unlikely that these archaeological sites located on once prominent Holocene landscape features harbor any intact archaeological deposits. Destruction undoubtedly occurred as a result of climatic events during the Middle and Late Holocene and from the activities of human occupants" (Overstreet et al. 1986:60).

Soon after the GLARC report was available, the 1986 reports of human bone eroding from the McIlvaine site were received by MVAC, and led to the follow-up studies at the McIlvaine Site (47Lc160) that are described in this report.

METHODS (1986)

As called for in the 1986 scope of work for McIlvaine Island (Appendix A), the late spring project of that year undertook several specific objectives. These included the excavation of a 2 x 2 meter unit at the location where fragments of human pelvis and a femur had been reported by the local residents (Baumans) in order to salvage any remaining in-situ deposits. Excavation of cut banks along severely eroding shorelines were made in order to identify any additional in-situ cultural features and evaluate the contexts of these deposits. In addition, shoreline surface collections were undertaken.

Investigations were conducted in early June of 1986. By that time high water levels had receded, and the pelvis and femur find location was a low beach. A 2 x 2 meter unit was established there and excavated by skim shoveling. All soils were screened through 1/4" mesh hardware cloth.

During the spring/early summer of 1986, the most severely eroding banks were located along the northeast, east and southeast shoreline (Figure 12). The east bank was the least steep of the three, and fronted a 1-2 m wide bench. Roots of a still standing Red Oak were exposed in this bank. In order to avoid damaging the roots, and thereby hastening toppling of the tree, no excavations were made there. Bank cuts were made along a nine meter length of the southeast shore, and a 4.5 meter length of the northeast shore (see Figure 13). The bank cuts were made with shovel and trowel, and all soils were screened through 1/4" mesh hardware cloth. Along the northwest shore a 80 cm wide terrace-like bench was situated 60 cm below the surface. This latter bench was cleared both horizontally and vertically before excavating to create a vertical profile on the island.

Features identified in the bank cut profiles and benches were mapped and studied individually. Only portions of features on the benches that extended out from the bank cut profiles were excavated. All soils from the feature excavations were screened through 1/4" hardware cloth.

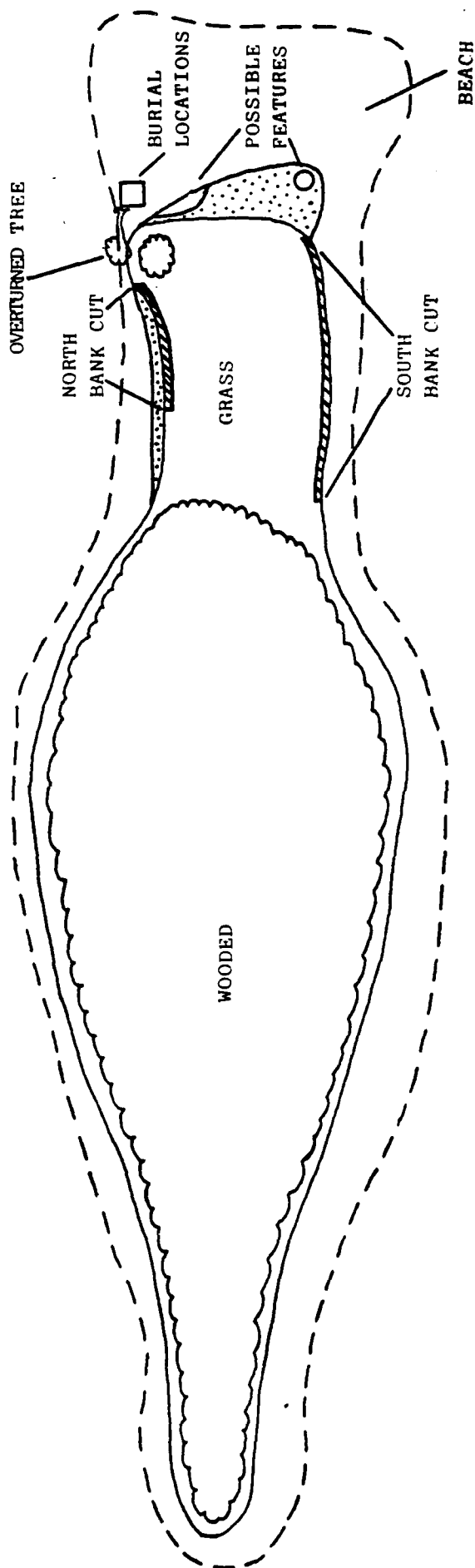
Profiles of the bank cuts were mapped and photographed, and field notes taken. All artifacts were bagged and tagged by provenience and returned to the laboratory for cleaning, cataloging and analysis. All records and recovered artifacts from this project are housed at MVAC through a cooperative agreement with the U.S. Fish and Wildlife Service.



Figure 12: Erosion at east end of McIlvaine Island 1986. Human remains were located at the base of the upturned tree roots from a recently toppled red oak. Note also the standing red oak on the "grass platform". The standing red oak was used as datum in 1986, and toppled just before the 1987 field work.

LAKE ONALASKA

STUMPS



KEY
BENCH

FIGURE 13: Location of excavations at 47Lc160, 1986

RESULTS (1986)

Surface Collections

Artifacts exposed on the beaches had been redeposited through erosion, however, these had probably not been transported laterally to a great extent. Therefore, materials collected from each shore were kept separate. In addition, artifacts were collected from the shallow water in front of the northeast shore adjacent to where the pelvis and femur fragments had been exposed.

Several small bone fragments were found in the water just in front of the human bone find locations on the northeast shore. In fact, a diaphysis section of a human long bone was found dangling from a rootlet in the overturned tree immediately to the west. This strongly suggests that the burials were exposed to erosion when the tree overturned in the spring of 1986.

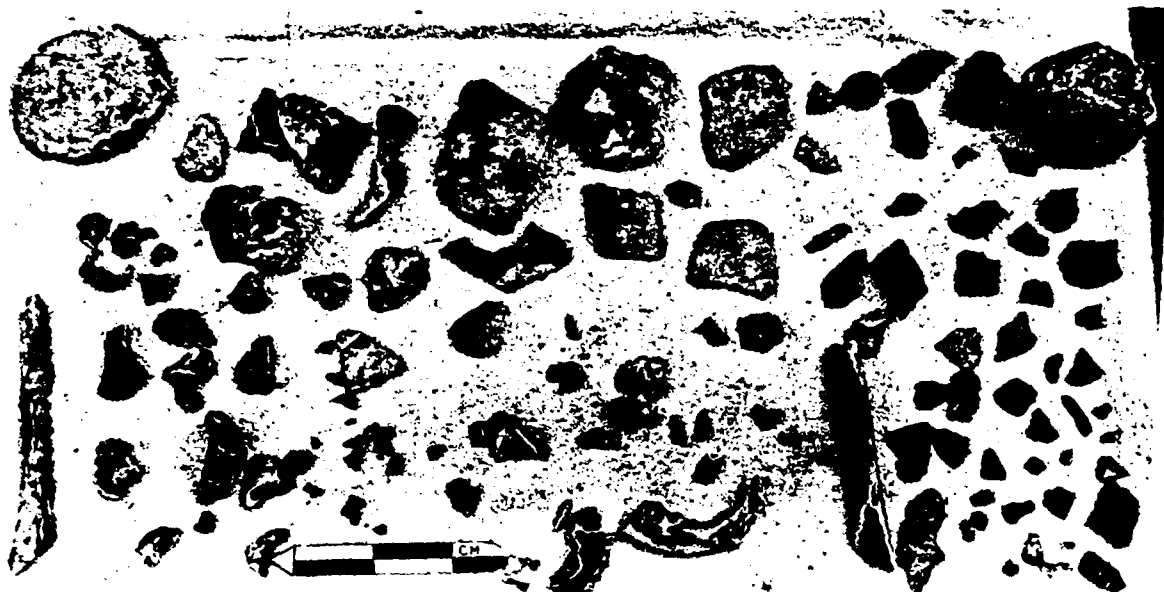
The artifacts recovered during the shoreline surface collections are listed in Appendix C. These include: two projectile points, and a number of undiagnostic lithic and ceramic artifacts. The points are examples of an Early Woodland, Waubesa Contracting Stemmed and a late-Middle Woodland, Monona Stemmed.

In addition, a second local resident (Stoleson) had visited the site a few weeks before our study, and had found numerous human bone fragment and some flake debris in the shallow water immediately adjacent to the upturned roots of the fallen tree (Figures 14 and 15). The bones were turned over to MVAC and were analyzed along with the bones found by the Baumans (Figures 16b and 17) and those collected during the MVAC investigation (see Appendix D).

Many bone fragments from the Stoleson collection represented sections of a single human cranium. These were re-assembled at the MVAC laboratory (see Figure 15). Their condition is such that water erosion has removed the outer bone surface, from about 60 percent of the cranial fragments, and rounded some edges. However, about 40 percent of the cranium, especially along the right posterior side were virtually undamaged by the water. For the less eroded portion of the cranium, the outer surface of the bone remains intact and the sutures of the various plates are sharp. The relatively good condition and reconstructable nature of much of the cranium strongly suggest that it had been exposed to the water for only a very short time.

The bones likely represent portions of three adult human skeletons (see Appendix C). The number of individuals was based on the collection of two human mandibles and two right pelvis fragments. One of the mandibles exhibited a squarish chin suggesting male sex while the other exhibited a pointed chin suggesting female gender. Both left pelvic fragments exhibited wide greater sciatic notches suggesting female sex. The presence of at least two females and one male indicates a minimum of three individuals all of which were adult.

Precise cultural affiliation of the individuals represented by the human skeletal remains from the McIlvaine site is virtually impossible, due to the disturbed contexts of the bones when recovered. However, the presence of a shovel-shaped incisor (the only complete incisor recovered) indicates that at least one of the individuals was Native American. Furthermore, the well preserved condition of the bone, when contrasted to a virtual absence of preserved bone in all prehistoric features excavated at the site, suggests either late prehistoric (ie. Oneota) or historic (ie. Winnebago) age. The site soils are acidic with pH averaging 5.0 within the Natural A-Horizon (see Overstreet et al. 1986:52), and have likely caused rapid deterioration of bone materials. In addition, tooth decay observed in the upper right second molar of the recovered



Figures 14 and 15: Top is human bone and other artifacts found in water by Stolson and donated to MVAC. Bottom is reassembled cranium from Stolson donated bones.



Figures 16 and 17: Pelvic fragments (two left innominate with wide greater sciatic notches) indicating two females, and mandible/maxilla remains (more complete mandible has male-like squarish chin) collected from water and shore. These elements suggest a minimum of three individuals.

maxilla may be evidence of a diet that included corn, further supporting late prehistoric or historic age of the skeletal remains (Sullivan 1984). The confirmation of early 19th century human activity at this site (based on recovered diagnostic Kaoline pipe fragments, see 1987 results) coupled with historic accounts suggesting contemporary Winnebago encampments at this site, indicate that the eroded burials likely represent historic Winnebago graves.

Burial Test Pit

A 2 x 2 meter unit was established on the beach immediately east of the recently overturned tree, where the pelvis and femur fragments had been found (see Figure 10). At the time of our excavations this location was approximately 160 cm below the present surface of the island and 1.5 meters northeast of the nearest uneroded edge of the island. This indicated a very rapid rate of erosion following the fall of the tree earlier that spring.

The excavation of the 2 x 2 meter unit revealed laminated beach sand to the water table (a maximum of 15-25 cm below the beach surface of 175-185 cm below the vegetated surface of the island). Within the beach sands only a few artifacts were recovered including a drill and a few small fragments of human bone (see Appendix C). These had been redeposited through the spring erosion. In sum, no evidence of undisturbed soil or cultural features were found during this excavation.

North Profile Bank Cut

Immediately west of the fallen tree, that had almost certainly exposed at least one human skeleton, and along the northeast shore of the island was a five meter long eroding bank. This bank dropped vertically 60 cm from the vegetated surface of the island to a narrow terrace like bench (ca. 80 cm wide), and then dropped from the bench another 50 cm to the beach. In the bank face, above the bench, and about 35 cm below the island surface was a lateral line of washed in debris marking the spring high water level. The bench below was littered with a mat of washed in vegetation. The west end of the bank was partially protected by a cluster of roots from still standing shrubs and trees.

Excavations began with clearing the washed-in vegetation from the bank and bench and cleaning the profile above and below the bench with shovels and trowels (Figure 18). Thus two profiles were cleaned. Profile A was along the north end of the bench. Profile B was completed after removing the bench and extended from the present surface of the island well into subsoil sands. The soils from the present vegetated surface to the bench were dark (10YR3/3) fine sands representing a Natural A-Horizon. The top 15-20 cm of the bench was a continuation of this horizon and overlay at a depth of 80 cm (below the island surface) light colored, non-organic fine sands. Profile A, along the north edge of the bench, revealed several clear depressions of organically stained sands intruding into the light colored subsoil sands. These depressions resembled pit features and were treated separately. The features, designated 1-4, were excavated during removal of the bench. Plan views of the features were identified after removal of the darkened top 15-20 cm of the bench, and showed as generally dark circular stains in the sand (Figure 19).

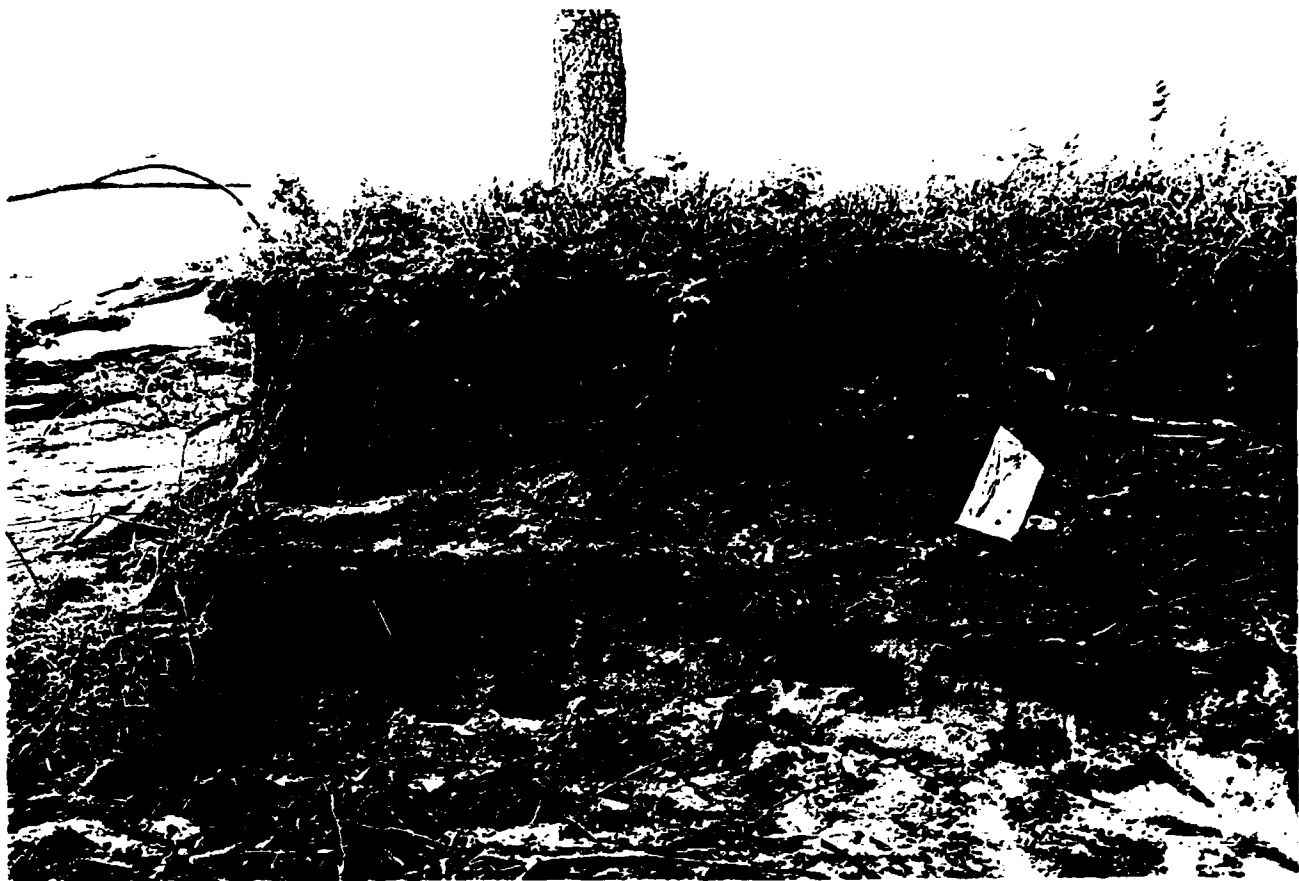


Figure 18: Initial cleaning of north bank profile in 1986. Note the bench ca. 60 cm below the grass platform surface, and feature stains in the base of bench. Feature 2 is seen at the right side of the cut, and Feature 4 at the left edge. Note the standing red oak above, that was used a datum in 1986, but toppled in 1987.



Figure 19: Feature 1 as it appeared after cleaning the bench along the north bank cut in 1986.

Features 1-4:

Feature 1: A large pit extending from the north edge of the bench southward beyond Profile B into the vegetated portion of the island. The pit appeared to be elongated and oriented generally N-S. An unknown extent to the north of the bench had been lost to erosion. On the bench immediately in front of the feature a broken Waubesa Contracting Stemmed point was recovered. The E-W width of the pit at the base of the natural A-Horizon was about 115 cm. At this level its edges were very distinct. The pit depth below the base of the natural A-Horizon (ie. starting 20 cm below the surface of the bench or 80 cm below the present surface of the island) was 55 cm. Thus the pit depth was 135 cm below the surface of the island, although the original top of the pit was undeterminable in the dark natural A-Horizon. Materials recovered from the pit fill are listed in Appendix C, and include a late Early Woodland rim sherd.

Feature 2: This pit was located just east of Feature 1 (see Figure 18) on the north shore bench. The north half of Feature 2 had been lost to erosion, and the total remaining portion of the feature on the bench was excavated. This pit measured ca 110 cm across (E-W), and extended to a depth of 25-30 cm below the base of the natural A-Horizon. The feature fill contained numerous flakes and two undecorated grit-tempered sherds. The total artifacts recovered from Feature 2 are listed in Appendix C.

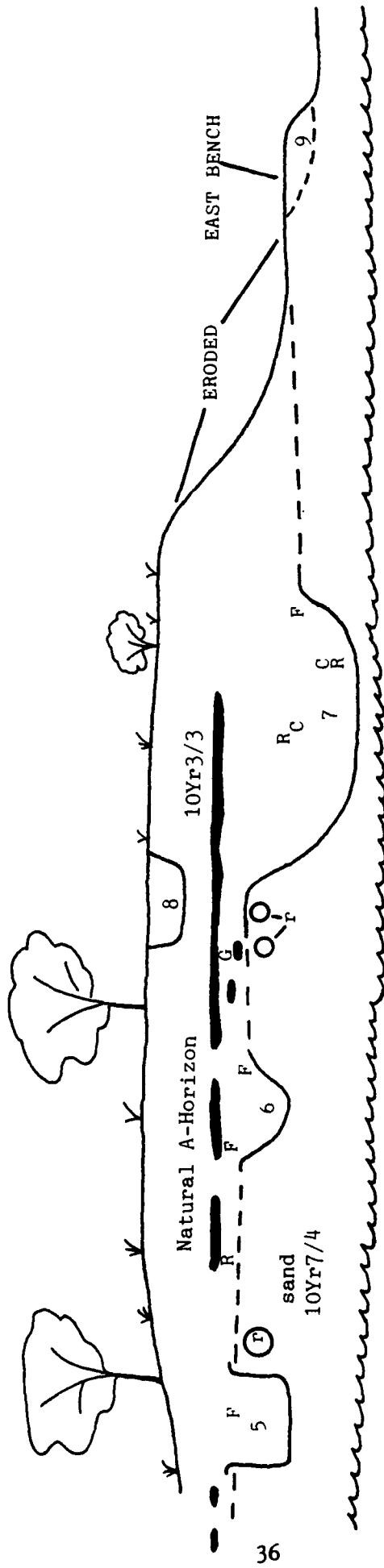
Feature 3: This stain was located to the east of Feature 2, and did not extend to the eroding edge of the bench. It was first observed while removing the base of the natural A-Horizon (15-20 cm) from the surface of the beach. At this level the feature showed as an irregular stain of loose organic sand extending southeasterly into the uneroded portion of the island beyond Profile B. Within the stain was a cluster of pottery sherds including several that resemble the Middle Woodland Trempealeau Phase type, Kegonsa Stamped. In addition, a single shell-tempered sherd was recovered. Based on the irregular shape of Feature 3, the loose nature of the matrix and the mixture of shell- and grit-tempered pottery, this feature is interpreted as a recent animal burrow disturbance.

Feature 4: This pit was located northeast of Feature 3 on a small point immediately south of the overturned tree that had exposed the burials (see Figure 18). An unknown portion of this pit had been lost to erosion. Some remnants existed on the bench and the pit extended southeasterly into the undisturbed point of the island. Only the portion actually on the bench was excavated. The pit depth below the base of the natural A-Horizon was 55-60 cm. Feature 4 contained several flakes and grit-tempered pottery sherds. The sherds are similar to Trempealeau Phase ceramics including several that represent the same Kegonsa Stamped vessel that is also represented by displaced sherds in the adjacent Feature 3 rodent burrow. In addition, a sherd was recovered that appears to have been decorated using a dentate tool applied at an oblique angle.

South Bank Cut

Opposite the north bank cut, and separated by about 2.5-3 meters of intact island, that formed a grass covered platform, was vertically eroding bank forming the southeast shore of the island. This face was 9 meters long, with the east end sloping downward from erosion at that end of the island. There was only a narrow beach below the south face, and no bench existed as along the

MC ILVAINE
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SOUTH WALL PROFILE

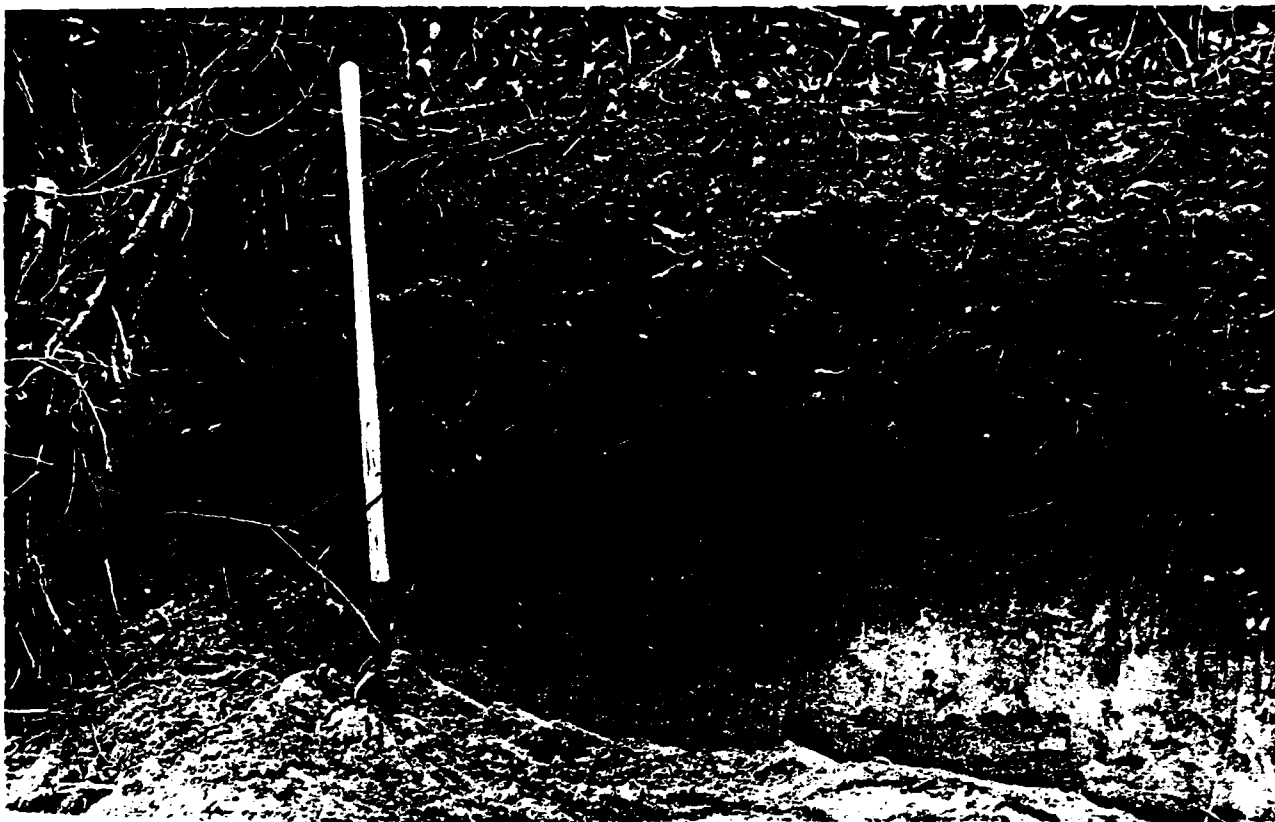


KEY

- 5-8 Features
- F Flake
- r Rodent
- R Rock
- G Glass
- C Charcoal
- Organic Bed (High water mark)

0 1M

Figure 20: 1986 south bank profile showing Features 5, 6, 7, 8, and 9.



Figures 21 and 22. Features 5 and 6 as they appeared in the 1986 south wall profile. Note the fine lamellae at the base of the excavations.



Figure 23: Feature 7 as it appeared at the east end of the 1986 south bank profile.

north bank profile. At a depth of 50 cm below the present surface of the island was a lenticular band of washed in vegetation debris marking the spring high water mark. The 15 cm difference between high water marks on the north and south banks reflects a sloping island surface.

The south bank was cleaned with shovel and trowel. The top 80 cm of the profile was the dark (10YR2/3) and fine sandy natural A-Horizon. This overlay lighter (10YR7/4) subsoil fine sands. At depths of 175 cm and again at 195 cm two irregular thin lamellae were observed (see Figure 20). Three pit-like shaped dark stains were observed extending into the light colored subsoil from the overlying dark natural A-Horizon, and designated Features 5-7 (Figure 20). At the island surface was a concentration of recent historic debris that was designated Feature 8. The only excavation of Features 5-8 was through cleaning the profile. Artifacts observed in-situ in this profile or during bank cutting were collected and bagged according to specific provenience. In addition an organic stain was observed at the east end of the south bank cut, where island tapers from erosion along the east side. This latter stain was designated Feature 9. Features 5-9 are described below:

Feature 5: (Figure 21) A deep straight walled, basin-bottomed pit extending 55 cm below the base of the Natural A-Horizon. This pit was 75-80 cm across in profile. Its surface was indistinguishable in the dark Natural A-Horizon. The pit produced only two flakes during cleaning of the bank profile.

Feature 6: (Figure 22) A basin shaped pit extending 30 cm below the base of the natural A-Horizon. This pit measured nearly one meter across at the base of the A-Horizon. The surface of the pit was indistinguishable in the dark A-Horizon. Two flakes were recovered during profile cleaning.

Feature 7: (Figure 23) This was a very large pit located near east end of the south bank cut (Figure 18). The pit extended approximately 90 cm below the base of the natural A-Horizon. This pit extended over two meters across (E-W) in profile at the base of the A-Horizon. Within this pit were several pre-historic artifacts (Appendix C) including a narrow knife or wide perforator made during the bank cleaning.

Feature 8: This consisted of recent historic debris (Appendix A) extending from the surface of the island down into the natural A-Horizon 30 cm. The materials include concrete and shattered light bulb fragments indicating 20th century deposition. This feature probably represents a dump from the pre-lock and dam ranger station.

Feature 9: An organic stain observed below the natural A-Horizon on the east bench of the site. Skim shoveling of this area failed to clearly define a pit stain in plan view. This may be due to the small area of the stain left on the east bench.

SITE CONDITION IN 1987

By the summer of 1987, erosion had accelerated along the southeast margin of the island, causing a loss of approximately 1-2 meters of the site along that shore. This erosion advancement destroyed all or portions of Features 5, 6, 7, 8, and 9 that were identified during the 1986 projects. Erosion had also continued to cut away at the northeast shoreline, so that by late spring the red oak used as a datum in 1986 was severely undercut. During a reconnaissance in early summer, bone fragments were observed in slumping soil immediately adjacent

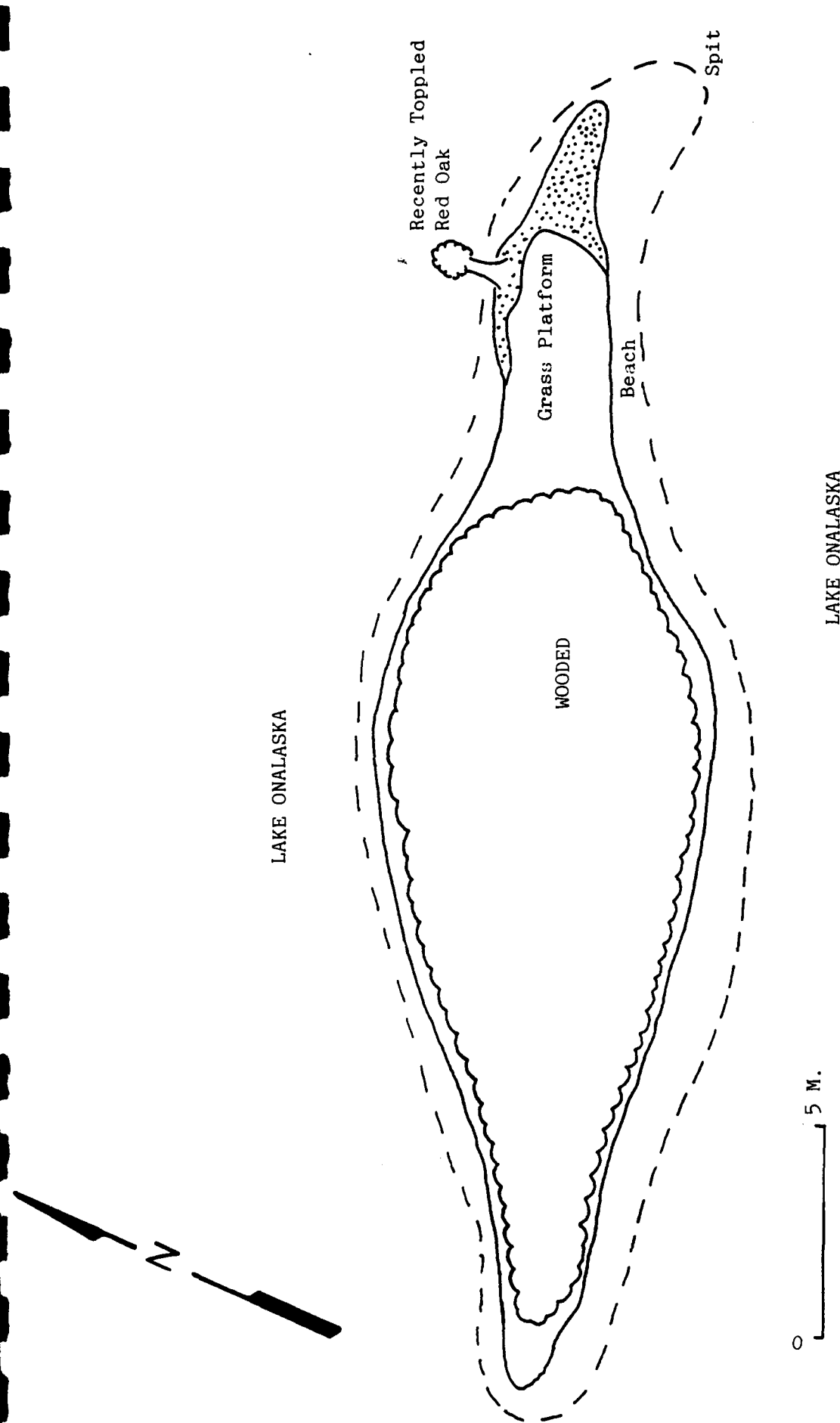


Figure 24: McIlvaine Island as of early 1987.

to the west edge of the roots of this tree suggesting that a burial might be eroding out here. It was estimated that the northeast shore lost one meter laterally between 1986 and 1987.

In late June, the U.S. Fish and Wildlife Service set up a snow fence in the water parallel to the threatened northeast and southeast shorelines. This was done in order to slow erosion, and provide a catch basin for excavated soils. Plans were also made to cut the perilously situated red oak to prevent its falling and pulling a large section of shore and the possible burial with it. Unfortunately, within days after erecting the fence, and before the tree could be cut, it fell and did pull out a several meter section of shoreline. In sum, the continued erosion of the north and southwest shorelines left only a 2 x 6 m platform of the grassy, east end of the island by the time of the 1987 excavations (see Figure 24).

METHODS (1987)

Based on the June (1987) reconnaissance visit to the site, and the conditions set forth in the Corps of Engineers Scope of Work, a Data Recovery Plan was established (see Appendix B). This plan outlined several research questions including: 1) the integrity of cultural remains not only within pit features, but the overlying A-Horizon; 2) components represented; 3) stylistic variation of diagnostic within the broader region of southwestern Wisconsin; and 4) age of the burials. The plan also outlined a methodological strategy, that was followed for the most part. The only major digression from the proposed field work, was due to the toppling of the red oak immediately before the investigation began.

Excavations began by cleaning the northeast profile along the grassy platform. This included the exposed bank created by the recently toppled red oak. The profile was inspected for feature stains or other cultural deposits. In addition, the bench created by the upturned roots of the red oak was skim shoveled in search of the bases of possible pit features (see Figure 25).

Excavations were subsequently begun on the 2 x 6 meter grass platform. These consisted of skim shoveling from the surface until feature stains were recognizable (Figure 26). Diagnostic artifacts encountered during this skimming were piece-plotted in order to record vertical placement as well as associate with features not recognizable until lower depths.

When features were identified they were defined in plan view and then bisected. One half was removed in arbitrary levels with all soils screened through 1/4" mesh standard hardware cloth. The resulting profiles were then inspected for internal zonation, mapped and photographed. If zonation was observed in profile, the fill of the remaining half of these features was removed by zone in matrix bags for laboratory flotation. If no zonation was observed, the second half of fill was also removed by arbitrary level and soils screened. These procedures were followed for Features 10, 11, 12, 14, 15 and 16.

Feature 13 was located at the extreme west end of the north bank profile, at the edge of stabilizing vegetation. A 50 x 50 cm block was excavated through the center of the feature as it showed in profile. The remainder of this feature was left in place.

All excavated soil was thrown along the north shore between the snow fence and the bank profile. This created a tapered slope that hopefully will enable



Figure 25: Skim shovelling bench beneath recently fallen red oak in 1987.
Note grass platform to left, and root pull to right of excavators.

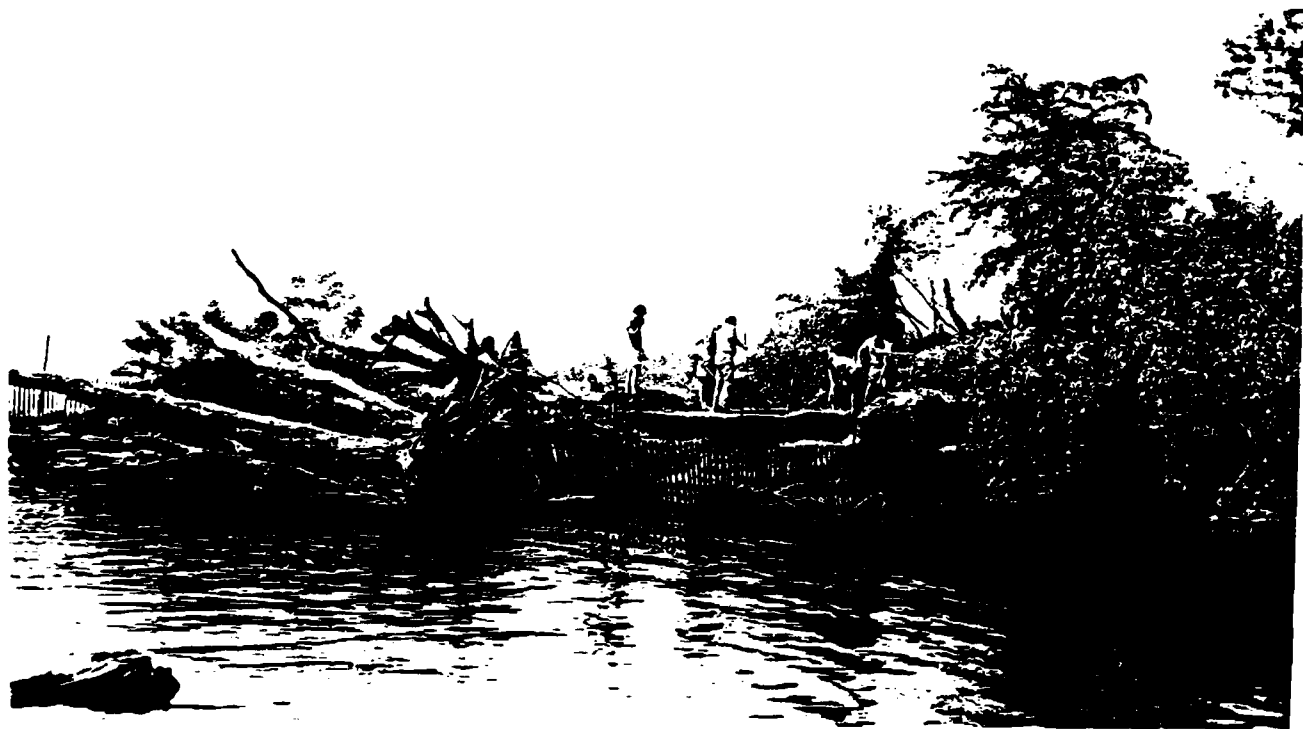


Figure 26:
Excavations on the "grass platform" 1987. Note the recently fallen red oak
to right of excavators.

vegetation to take hold and slow further erosion. As noted earlier, the south shore had formed a tapered slope on its own, and was covered with drift materials. With the snow fence along that shore, it is hoped that the vegetation will also take hold.

RESULTS 1987

The 1987 investigations recovered additional cultural remains including diagnostic artifacts from disturbed contexts along the shore and bank slump areas. These are listed in Appendix C, and described in the synthesis on the overall site artifact assemblage. In addition, bank profile excavations exposed several different pit stain features, and excavation of the grass platform encountered others (Figure 27). The Features (10-16) identified in 1987 are described below. Finally, excavation of the natural A-Horizon on the grass platform found diagnostic artifacts in relative stratigraphic position including a section of a Late Woodland vessel (Feature 17). This feature and the stratigraphic nature of the natural A-Horizon are also summarized below.

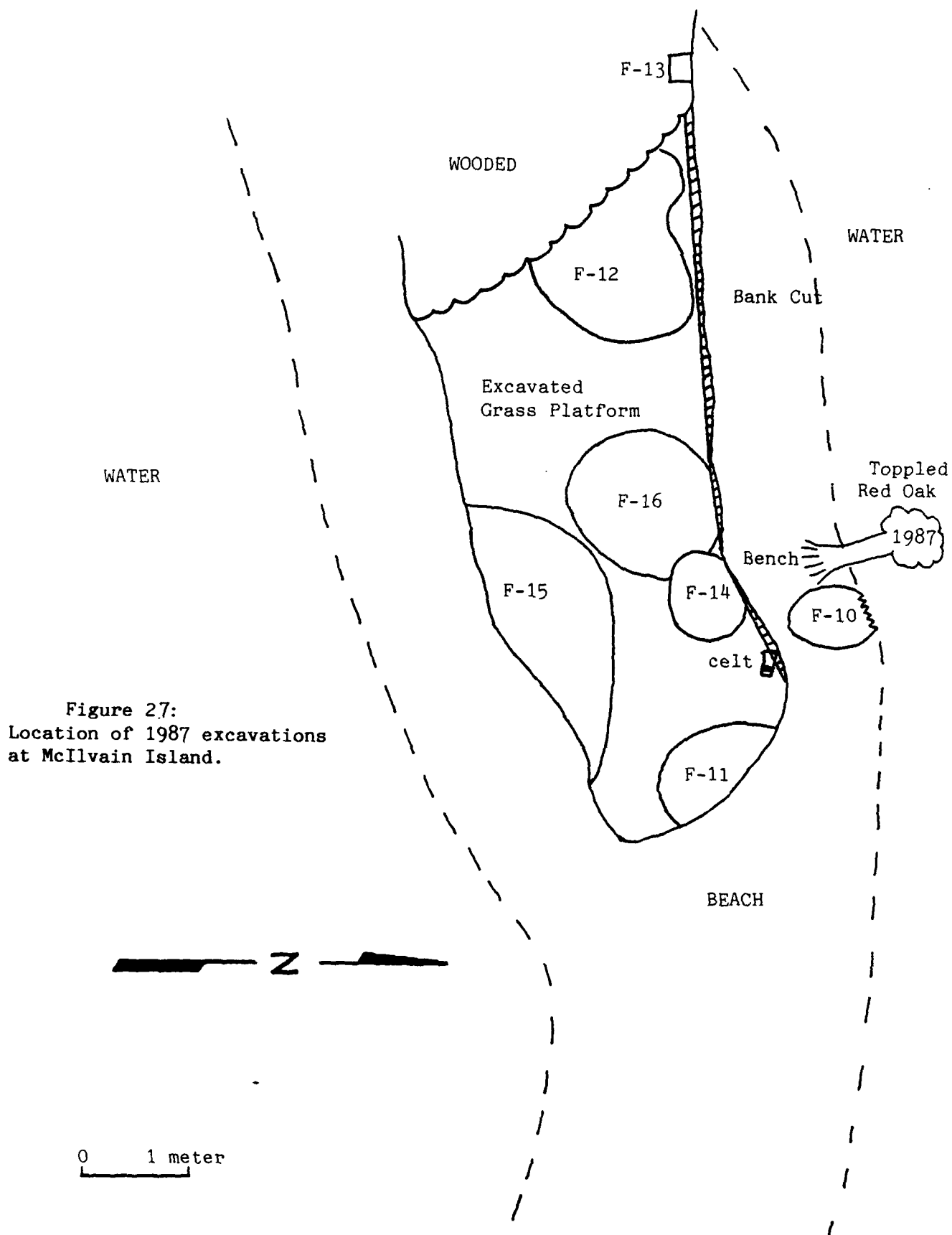
Feature 10: This is an organic stain identified at the east end of the north shore bench, immediately east of the upturned roots of the recently fallen red oak. The stain was observed while skim shoveling the bench at a depth of 123 cm below the vegetated surface of the adjacent platform. A cluster of 45 pottery sherds from one late Early Woodland vessel was found while cleaning the surface of the stain at this depth.

The stain was found to be roughly oval in plan view at the 123 cm depth, however, the north edge had eroded into the lake. The east half of the feature was excavated revealing a pit stain composed of three zones (Figure 28). These zones were excavated separately from the west half. Zone A contained an additional 19 sherds from the late Early Woodland vessel in addition to several waste flakes. Zones B and C contained substantially fewer artifacts.

Feature 11: This was identified in profile as a basin shaped organic stain, extending 50 cm below the base of the natural A-Horizon, at the east end of the grassy platform. An unknown portion of this feature had been lost to erosion east of the platform. Troweling the bank profile revealed no internal zonation within the feature, rather the stain was a homogenous dark (10YR3/3), fine sand (Figure 28). In addition, the profile cut adjacent to the feature exposed a thin, discontinuous Beta-B lamellae at a depth of 55 cm below the base of the natural A-Horizon, or 122 cm below the island surface. Skim shoveling on the grass platform to the southwest of the bank profile did not allow definition of the Feature 11 plan view dimensions until the base of the natural A-Horizon was revealed (68 cm below the grass surface).

Excavation of the intact portion of Feature 11, recovered very few artifacts (see Appendix C). These include five thin, undecorated grit-tempered sherds, that represent a small portion of a Late Woodland (Madison ware) vessel.

Feature 12: Upon reaching the base of the natural A-Horizon, several organic stains were observed intruding into the light colored subsoil sands. One of these was a somewhat irregularly shaped stain along the west edge of the grass platform. This stain was designated Feature 12, and bisected into east and west halves. The organic stain was found to be 190 cm across (N-S) and extend to a depth of about 120 cm below the surface (or 52 cm below the base of the natural A-Horizon). The feature fill consisted of three slightly differing soil layers, and had a notable rodent run through it. Its base was relatively flat



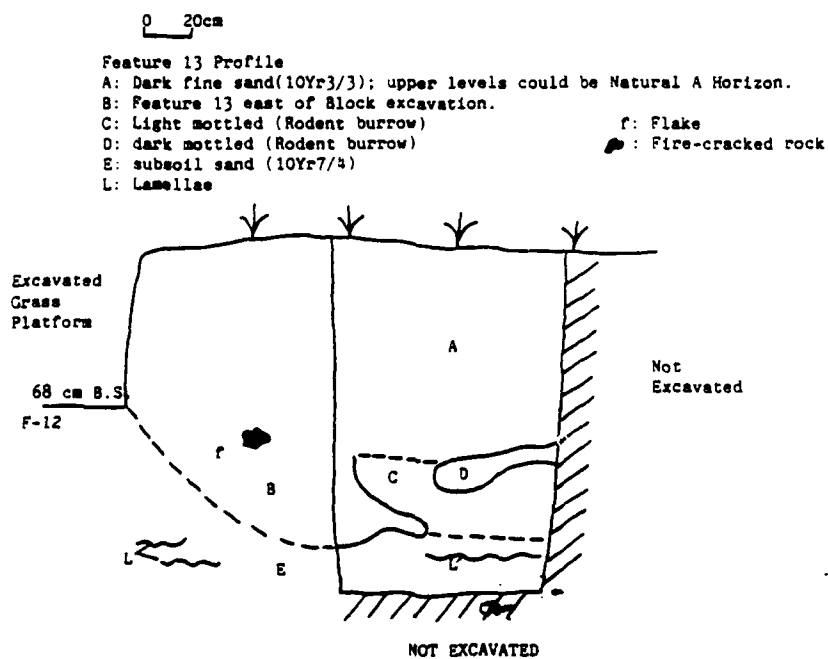
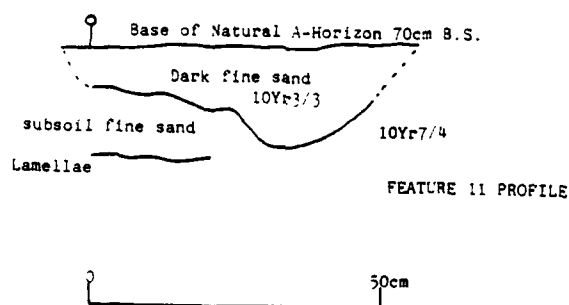
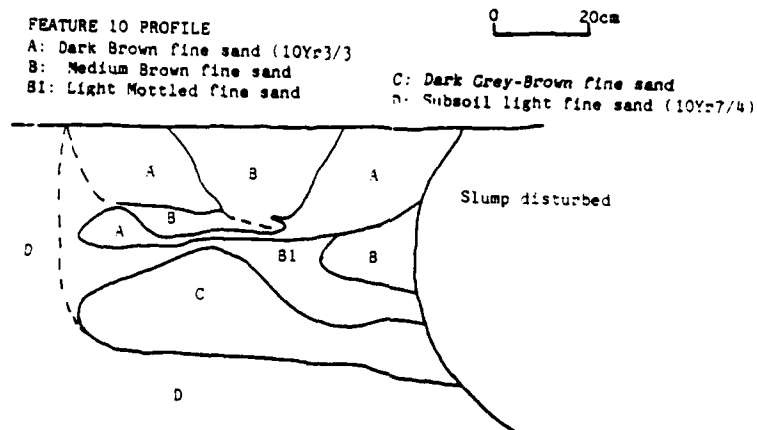
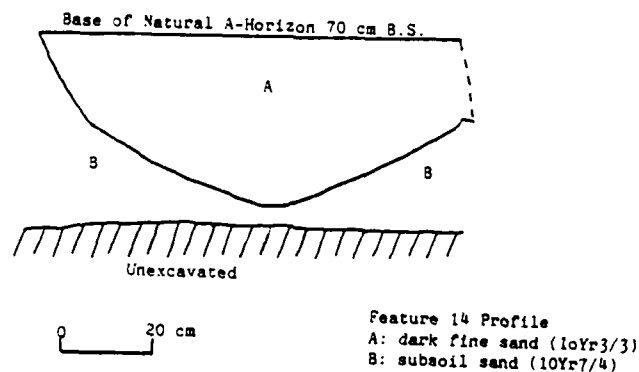
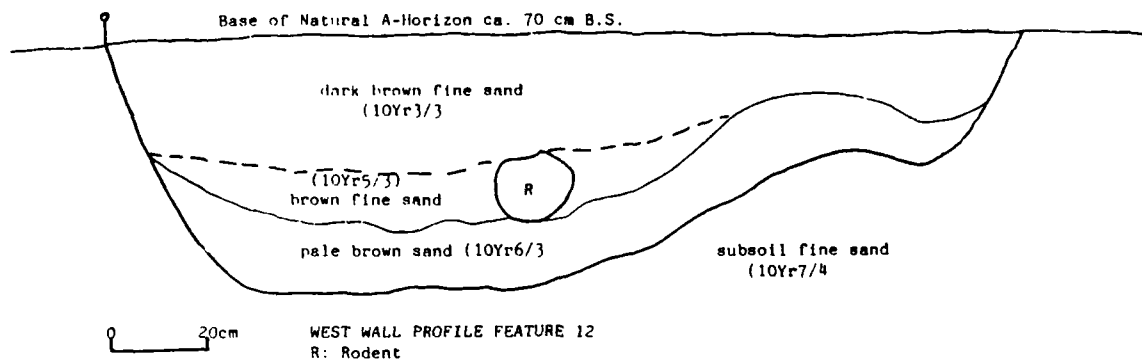


Figure 28: Profiles of Features 10, 11, and 13 from 1987 excavations.



PROFILE (SOUTH WALL) of Feature 15, 1987.

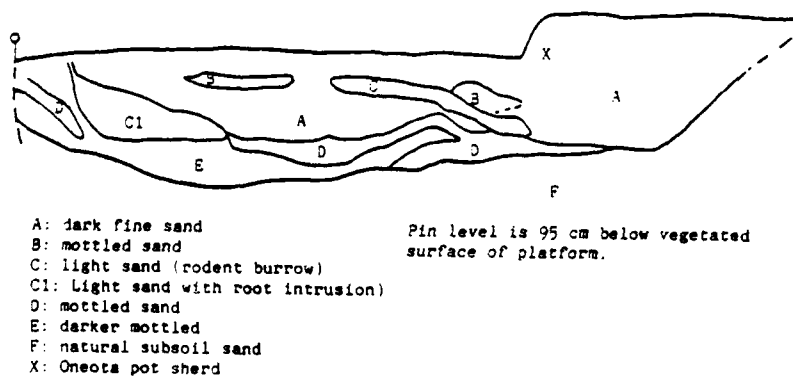


Figure 29: Profiles of Features 12, 14, and 15 from 1987 excavations.

(Figure 29).

Excavation of this feature, recovered numerous flakes, and a bit of fire-cracked rock, but no ceramics or other diagnostic artifacts (see Appendix C). Of interest is that the enamel crown of a human molar was also recovered from this pit. No other bones, or suggestion of this having been a burial pit was found.

Feature 13: In cutting the north bank profile, a deep organic stain was observed at the west end of the grass platform, actually beyond the grass and into the wooded area. The bank profile was extended somewhat here to further investigate this stain. The profile (Figure 28) revealed a probably deep pit extending 60 cm below the base of the natural A-Horizon (128 cm below the vegetated surface). Because this area was not immediately threatened with erosion, the feature was not completely excavated. Instead, a 50 x 50 cm block was excavated in the center of the stain, to ascertain that the pit did not contain a burial.

The 50 x 50 cm block contained a number of artifacts, primarily flakes and undecorated grit-tempered sherds (see Appendix C). Those artifacts recovered from above 68 cm could not be confirmed as being associated with the pit stain, but could be from an overlying occupation in the natural A-Horizon. Therefore, the artifacts from below that level, which are clearly associated with the pit fill have been segregated. These consist of 42 flakes and a biface fragment. All 12 sherds and the remaining 13 flakes were recovered from above this level. This suggests that the feature origin approximates the base of the natural A-Horizon, and may pre-date ceramic components.

Feature 14: This was another organic stain located upon removing the natural A-Horizon from the grassy platform. This small circular stain intruded into Feature 16 (see Figure 27). The stain was basin-shaped (Figure 29) with its base located at a depth of 37 cm below the base of the natural A-Horizon (105 cm below the grass surface). The fill consisted of a homogenous dark (10YR3/3) sand. Excavation of the fill recovered numerous artifacts (see Appendix C) including several grit-tempered sherds that articulate with the Madison Cord Impressed vessel identified as Feature 17, and a single shell-tempered sherd. These ceramics suggest that Feature 14 represents late prehistoric (Oneota) activity. In constructing this pit, the occupants dug through earlier deposits including the Late Woodland surface represented by the Feature 17 vessel, mixing some of those materials in the fill of the pit. The pit also had been slightly disturbed by rodent burrowing.

Feature 15: This was a large, sharp-edged pit found along the south side of the grass platform near the west end of the excavation. Although first observed within the lower levels of the natural A-Horizon, it was not actually defined in plan view until the dark A-Horizon was completely removed from the platform. A large section of the pit had been lost to erosion to the south of the platform. The clarity of the pit edge, its size, and location suggested that it might represent the northern portion of Feature 7 from the 1986 south bank profile. Excavation of Feature 15 found its depth (145 cm below the surface) to be shallower than Feature 7 (170 cm); however, this may be due to southward dipping of the feature bottom between Feature 15 and the Feature 7 profile. Excavation of Feature 15 revealed sharply contrasting internal zones (Figure 29) of distinct fill.

Cultural materials from Feature 15 are listed in Appendix C, and include 15 shell-tempered sherds. In addition, a few grit-tempered sherds including two decorated grit-tempered sherds that represent fragments of the Feature 17

Madison Cord-Imprinted vessel were recovered from this pit. These latter sherds were found along the extreme western edge of Feature 15, near Feature 17. They and other grit-tempered sherds were almost certainly fortuitously mixed into the fill from later creation of the Feature 15 pit. The 15 shell-tempered sherds indicate that Feature 15, like Feature 14, is an Oneota pit that intruded through Woodland deposits.

Feature 16: This was another dark organic stain located at the base of the natural A-Horizon. The northeast edge of Feature 16 had been disturbed from intrusive Feature 14. Feature 16 was roughly circular and approximately 110 cm in diameter, when defined in plan view at a depth of 175 cm below the grass surface. It consisted of a homogenous dark sand (10YR3/3). Cross-sectioning revealed the pit to be a basin shape extending another 35 cm into the subsoil sands. The pit produced only a few non-diagnostic artifacts (see Appendix C).

Feature 17: While skim shoveling the A-Horizon of the grass platform, a cluster of small pottery fragments was encountered at a depth of 39 cm. The sherds were clearly from a single Madison Cord Imprinted vessel, but no pit stain was observed encompassing the sherds. Further excavation by trowel, found that additional sherds from this pit extended laterally for nearly one meter, and downward for another 20 cm, although the densest concentration was at 39 cm below the modern surface. Additional sherds from this vessel were subsequently found in Features 14 and 15, both of which also contained later Oneota ceramics, indicating these pits had intruded through a Woodland horizon, and mixed some materials. Given the distribution of the sherds from the Feature 17 vessel, and the lack of evidence for an encompassing pit, it seems likely that these represent a Late Woodland surface at approximately 40 cm below the modern surface.

Site Stratigraphy

The 1987 excavations revealed a natural A-Horizon of organically enriched fine sand from the vegetated surface to a depth of ca. 70 cm. Fine sand extended beneath the A-Horizon, but lacked organic staining with the exception of features and rodent burrows. The fine sandy matrix of the upper soil units strongly suggests eolian origin. Particle size analysis of cores from this site suggest that the eolian sand may cap alluvial deposits at depths of approximately 140-200 cm (Overstreet et al. 1986:49). In the Feature 11 profile a thin Beta-B lamellae was observed below the A-Horizon at a depth of 95 cm below the surface. In the Feature 13 profile two thin Beta-B lamellae were observed at a depth of 130 cm below the surface. Similar lamellae were observed in the 1986 south wall profile at a depth of 120-130. Berg (1984) has indicated that Beta-B lamellae require several thousand years to develop.

There has been some disturbance to the context of the archaeological materials from rodent activity, but possibly even more so from the large number of prehistoric pits that had been excavated at this site. Some of the pit features were excavated during Late Woodland and Oneota periods of activity, and intruded through earlier Woodland and possibly Archaic layers.

Despite the disturbance activities, the vertical distributions of diagnostic artifacts recovered during excavation of the Natural A-Horizon at the grass platform, found that the site retains relative stratigraphic context (Figure 30). For example, the few shell-tempered Oneota (AD 1300-1650) ceramic sherds recovered from the platform were located in the upper 30 cm. At 39 cm,

FIGURE 30: Site Stratigraphy

<u>DEPTH</u> <u>(In cm)</u>	<u>SOIL</u>	<u>COMPONENT</u>	<u>AGE B.P.</u>
0	Surface	-----	
10		Historic	0 - 200
20		Oneota	400 - 650
30	Natural A-Horizon fine sand (10Yr3/3)	-----	
40		Madison/Keyes (F-17)	700 - 1100
		Lane Farm/Millville	1100 - 1600
50		Havana/Trempealeau	1700 - 1800
60		Prairie	1800 - 1900
70		-----Late Archaic-----	2500 - 3500
	Subsoil		
80	fine sand (10Yr7/4)	-----	
90	Lamellae (F-11)		
100			
120	Lamellae (F-13, S. Bank Profile)	Sterile	
130	Lamellae		
140			
150		-----	

the Madison Cord Impressed vessel (ca. AD 800-1200) that was associated with Feature 17 was encountered. Immediately below this were six sherds of a Lane Farm cord Impressed vessel (ca. AD 700). In addition, all 40 of the undecorated ceramic sherds from 30-50 cm were Woodland, and with but one exception consisted of a paste, surface treatment, and thickness consistent with types of the late Middle Woodland Millville Phase (ca. AD 300-700). the single exception is a thicker sherd that more closely resembles slightly earlier Trempealeau Phase ceramics. Below 50 cm and to the base of the A-Horizon (ca. 70 cm), Trempealeau Phase ceramics were more frequent. For example, this 20 cm layer produced a rim with a bevelled lip, and four of ten non-exfoliated body sherds with a thickness greater than 8 mm and with large grit-tempered particles. This level also produced some Millville Phase sherds (though less in number than the 20 cm level above), and also contained a few Early/Middle Woodland Prairie Phase (ca. AD 0-100) sherds. In addition at 57 cm an Early Woodland, Waubesa Contracting Stemmed Point was recovered. Finally, at the interface between the base of the A-Horizon and subsoil sands, a fully grooved axe was found. These types of axes are thought to represent Late Archaic horizons in the upper Midwest. Below this level, no ceramics were recovered, though flakes were found to a depth of 75 cm.

ARTIFACT ASSEMBLAGE

The material culture remains from both the 1986 and 1987 investigations of the McIlvaine site are combined in the following discussion for convenience to the reader. Artifacts are presented below by four general categories; chipped stone, groundstone, ceramics, and historic. The virtual absence of animal bone remains and paucity of charcoal (no charred seed or nut fragments were recovered) precludes consideration of these at this point.

Chipped Stone

Eight projectile points or point bases were recovered during the MVAC investigations at the McIlvaine site in 1986 and 1987 (see Figures 31 and 32). Three of these are examples of the type Waubesa Contracting Stemmed. This type has been found in direct association with buried Prairie Phase components at floodplain sites in pool 10 (see Boshhardt et al. 1986; Theler 1987), and dated there between AD 1-100. Two of the Waubesa points from the McIlvaine site investigations are made of local cherts, while the third is made of a fine quality of silicified sandstone. One of the chert Waubesa points from the McIlvaine site was recovered in 1987 near the base of the natural A-Horizon at a depth of 57 cm, on the grass platform. The others were found in disturbed contexts, although the silicified sandstone Waubesa point was found immediately below Feature 1 in 1986. An additional Waubesa Contracting Stemmed point had been previously recovered from the site by MVAC (see Boshhardt 1986:11).

Three other points or point fragments recovered during these investigations are examples of expanding stemmed varieties that probably represent the late Middle Woodland (Millville Phase) type Monona Stemmed. The Millville Phase apparently began around AD 300 and lasted until about AD 700 in southwestern Wisconsin (Stoltman 1979). A complete Monona Stemmed point was recovered along the shoreline in 1986, and two stem fragments were also recovered from disturbed shoreline positions in 1987. All three are made of local chert.

Two point fragments are too incomplete to accurately compare with regional types. One of these is a nearly complete point made of silicified sandstone recovered in 1987. Unfortunately the lower half of the base is missing from this point, making it impossible to determine whether or not it was a notched or stemmed (straight, contracting, or expanding) variety. The other fragment is an apparent notch fragment of a point made of local chert. This point was recovered from the shoreline in 1986, and again is too incomplete to accurately affiliate with defined types. In addition, six tips of probable projectile points were recovered during the 1987 excavations. All of these have "snap" fractures, with no "impact" fracture scars evident.

A variety of other chipped stone tools were recovered during the 1986-87 investigations. These include four drill/gravers made by retouching flakes (three found in 1986, one in 1987), the knife/perforator found in Feature 7 in 1986, several broken knife fragments recovered in both seasons, and two scraping tools. The drills and scrapers are made of chert, while many of the knives were made of silicified sandstone.

In addition, several smallish core fragments and stage I and II bifaces were recovered. These, along with the primary and secondary flakes indicate that virtually all aspects of chipped stone tool manufacture were occurring at this site. The relatively few numbers of cores and primary flakes, however, suggests that the principal flint knapping activities undertaken at this site were tool finishing and re-sharpening. This is not surprising given the fact that there would have been no source of lithic raw material at the site.

Groundstone

A fragment of a shaped, polished and drilled granite artifact was recovered from skim shoveling the north bench in 1987, and thus, is from disturbed contexts. This artifact appears to represent a portion of a bannerstone or pipe. The drilled hole is of uniform diameter for the 2.57 cm length of the fragment and has a minimal diameter of 1.21 cm. There is no evidence of charring on the interior, and the absence of a bevelling in the drill hole argues against this having been a pipe. Furthermore, a bar-like flange is evident on the exterior surface, suggesting the shape of a bannerstone. If this artifact is in fact a portion of a bannerstone, it is a rare example reported from western Wisconsin. Elsewhere in the Midwest, these are thought to represent Middle-Late Archaic age (Cook 1976, Fowler 1959, Stoltman 1986:217).

A complete fully-grooved axe (Figures 33 and 34) was recovered from the interface of the natural A-Horizon to subsoil sands during excavation of the grass platform. This axe was manufactured from a basalt river cobble, that could have been obtained locally from an outwash terrace deposit, but not from the McIlvaine site proper. The axe is 16.7 cm long, 10.5 cm wide, and 7.5 cm thick. It weighs 10.78 Kg (4.1 lbs). The bit end is 5.75 cm long, and is slightly askew due to a chip having broken off one edge. Polish over the chipped surface indicates that the axe continued to be used afterwards. The opposite end is more massive, and pecked from having been used as a hammer or maul.

Grooved axes have rarely been found in datable contexts in Wisconsin, but based on reported in-situ finds to the south are thought to represent Middle to Late Archaic activities (see Cook 1976, Fowler 1959, Stoltman 1986:217). At McIlvaine, this and the bannerstone are probably relicts of the end of the Archaic around 3000 BP. This estimate is based on the fact that few late

Archaic or earlier artifacts have been recovered from floodplain sites in the upper Mississippi River (see Boszhardt 1986). Furthermore, the axe suggests heavy duty woodworking/lumbering, and climatic evidence lends support to a scenario of the floodplain being not thickly wooded until the Late Archaic. During the preceeding Middle Archaic, the climatic record indicates a warm/dry period to the extent that sand dunes likely became active on the adjacent terraces, and possibly resulted in the formation of the McIlvaine sandy rise within the floodplain. By around 4000 years ago and coinciding with the Late Archaic, moister conditions returned, that would have likely increased floodplain forests.

The only other groundstone artifact that was recovered is a coarse grinding stone from an exploratory trench (Trench X) placed to aid in defining the edges of Features 14 and 16. This artifact was found at a depth of 85 cm, and thus was associated with one of these pit features. Both surfaces of this piece of sandstone bear evidence of having been ground flat, and one surface also exhibits a series of five parallel abrasion scars.

Ceramics

A total of 424 prehistoric ceramic sherds were recovered during the 1986 (N=68) and 1987 (N=356) investigations at the McIlvaine site. The vast majority of the ceramic assemblage (N=339; 95 percent) are grit-tempered sherds, and are considered fragments of Woodland Tradition vessels. The remaining 17 sherds (5 percent) are shell-tempered and represent late prehistoric Oneota Tradition vessel fragments. One hundred thirty-seven grit-tempered sherds from the 1987 investigations originate from only two vessels (68 from the Feature 17 pot, and 69 from the Feature 10 pot). Decorated grit-tempered sherds in the assemblage include examples of Woodland Tradition varieties ranging from the late Early Woodland, Prairie Phase (ca. AD 0-100) to the Late Woodland, Keyes Phase (ca. AD 800-1200).

The earliest sherds in the assemblage include four rim fragments and three decorated body sherds that compare in style and paste characteristics to Prairie Phase vessels in southwestern Wisconsin (Stoltman 1986, Boszhardt et al. 1986; see Figures 35 and 36). Prairie Phase ceramics typically consist of a sand and clay mixture, and are frequently decorated with incised lines and/or fingernail impressions. The rim area often exhibits a row of punctates from either the interior or exterior surface, and commonly has fingernail or tool notching (including cord-warp stick impressions) on the interior lip. Stoltman (1986) has used decorative variations from the pool 10 region to define several Prairie Phase types.

Three Prairie Phase rim sherds were recovered during the 1987 investigations at the McIlvaine site, but were all recovered from disturbed contexts along the shore. One of these exhibits incised lines on a cord-roughened surface and a row of punctates pushed from the interior rim surface. This variety conforms with the type Prairie Incised. The other two rims show smoothed exterior surfaces, but are very small fragments. One has a row of exterior punctations below the lip, and fingernail impressions on the interior lip edge. The third Prairie Phase rim is a small fragment that is distinct in having a flattened lip. The single sand-tempered rim recovered in 1986 was associated with Feature 1. This sherd has smooth surfaces, and exhibits a punctation below the rim.

Two of the decorated sand-tempered body sherds have fingernail impressions

placed on a smoothed surface. These impression are arranged so as to create an unusual pattern consisting of crescent shaped impressions bordered by lines of nearly joining straight impressions. These two sherds do not articulate, and one was recovered in each of the two seasons. Other sherds of this vessel have appeared in private collections from this site. The third decorated Prairie Phase body sherd was recovered in 1987, and has parallel incised lines placed obliquely to the orientation of cord-wrapped paddle impressions on a roughened surface.

The fingernail impressed sherd from 1987 was recovered in the upper 30 cm of the natural A-Horizon of the grass platform, and was probably displaced from lower levels by later activities at the site. The incised over cord-marked sherd actually consists of three articulating sherds that were found near the base of the A-Horizon on the platform. These latter sherds correspond with the depth of one of the Waubesa Contracting Stemmed points. In addition, the cluster of undecorated sand tempered sherds from Feature 10 undoubtedly represent a broken Prairie Phase vessel portion.

Subsequent to the Prairie Phase in southwestern Wisconsin is the Middle Woodland, Trempealeau Phase dating from ca. AD 100-200 (Stoltman 1979, Theler and Stevenson 1984). Ceramics from the Trempealeau Phase are compared with Havana ware in Illinois, and are distinctive in consisting of coarse grit-tempering, relatively thick walls and are usually decorated with bold tool stamp designs. In addition, a unique trait among some Trempealeau Phase vessels is the slanted or bevelled lip.

Several Havana ware sherds have been recovered from the McIlvaine Site during the 1986 and 1987 seasons (see Figure 36). A single rim sherd recovered from the lower levels of the natural A-Horizon in 1987 exhibits coarse grit-tempering, pronounced interior punctates that likely created "bosses" or "nodes" on the exterior surface, and a bevelled lip. Unfortunately, the exterior surface of this sherd had exfoliated away. Several Trempealeau Phase sherds, many from the same vessel were recovered from Features 3 and 4 in 1986. These include 13 thick sherds; with a partially smoothed-over, cord-roughened surface that had been subsequently stamped with a cord-wrap stick on the edge of a cord-wrapped paddle to form parallel vertical columns. This type of decoration generally falls within the type Kegonsa Stamped. Feature 4, also yielded a smoothed body sherd with a dentate stamp impression that resembles the type Naples Dentate Stamp. In addition, two Havana ware body sherds recovered from disturbed contexts on the island shore in 1987. One of these also has a cord-wrap stick impressions closely resembling the sherds from Features 3 and 4. Other sherds of this vessel, also appear in private collections. The other sherd is smoothed and has an unrecognizable tool stamp impression, but is thick and has coarse grit-temper.

By around AD 300, Woodland ceramics in southwestern Wisconsin, and throughout the upper Midwest become thinner-walled, use finer grit-temper, and were impressed with finer tool stamps. These vessels are diagnostic of the subsequent Millville Phase that lasted until ca. AD 700 (Stoltman 1979). An undecorated rim sherd that conforms in form, paste, and thickness to thin ware vessels, was recovered from the lower portion of the natural A-Horizon in 1987 and is classified as Levensen Plain (see Figure 37). A second Linn ware rim sherd, this one exhibiting linear stamping in the exterior lip was found in bank slump in 1987. Four sherds (two each from 1986 and 1987) exhibit unusual incised lines or grooves on smoothed surfaces, though in paste and temper fit within Linn ware. These sherds are all small fragments; the two from 1986 are

exfoliated. These were also recovered in disturbed contexts.

At about AD 700, decoration on Woodland ceramics throughout much of the upper Midwest transforms from tool stamping to cord impressions. Initially the cord impressions were combined with rocker-stamping on otherwise smoothed Linn ware vessels, but by about AD 800, rocker-stamping, surface smoothing faded resulting in cord impressions over cord-roughened surfaces. The earliest cord impressed vessels are known as Lane Farm, while the latter become the hallmark of Madison ware and mark the Late Woodland, Keyes Phase (Benn 1979, Stoltman 1979). A grouping of several small Lane Farm Cord Impressed Sherds from a single vessel was recovered in the middle levels of the natural A-Horizon (Figure 38). A more complete Lane Farm rim sherd was also recovered from the shoreline in disturbed context.

By about AD 800 and lasting until ca. AD 1200, Madison ware (dominated by cord or fabric impressed decorations on the rim), reigned as the Woodland ceramic style manufactured within a region corresponding in space and time with effigy mounds. This region centers in southern Wisconsin. The vessel portion that constitutes Feature 17, is an example of Madison Cord Impressed (Figure 38). This vessel is unusually thin walled, and has a narrow orifice, suggesting a small size.

Finally, about AD 1300 in the La Crosse/Onalaska region, Late Woodland is supplanted by the Oneota culture with its distinctive shell-tempered pottery. Extensive research, and a large number of radiocarbon dates from Oneota sites in this region, has recognized a developmental sequence of Oneota locally. From about AD 1300-1400 ceramics and other traits of local groups closely resemble the Oneota components in the Blue Earth locality of south central Minnesota (Dobbs 1983, Gibbon 1984). In Wisconsin, Hall has defined a variant of Blue-Earth Oneota ceramics called Perrot Punctated (1962). This type is distinctive in having rims with interior lip notching, and punctates that form borders of geometrical zones of tool trails, among other attributes. The Olson (47Lc76) North Shore (47Lc185) site complex on nearby Brice Prairie is a very large Oneota village that has produced extensively Perrot Punctate ceramics (Gallagher et al. 1982; Boszhardt et al. 1984). From the McIlvaine site a single decorated rim sherd was recovered from the shoreline in 1987 that has oblique interior lip notching, and almost certainly represents a contemporaneous (AD 1300-1400) vessel (see Figure 39).

In addition, two Oneota rim fragments, also from the shore, exhibit traits of the subsequent Orr Phase (see Figure 39). Orr Phase ceramics include the general type Allamakee Trailed, and are distinct in having notching on the lip top, and punctates that fill zones rather than border zones. In the La Crosse area variations of Allamakee Trailed are seen as developing out of the Blue-Earth Perrot Punctate around AD 1400, becoming purely Allamakee Trailed by AD 1450, and lasting until ca. AD 1650 when this region was abruptly abandoned by the Oneota. The two rim sherds that compare to the post AD 1400 Allamakee Trailed Oneota type both have lip top notching. Unfortunately, not enough remains of the vessel body to ascertain other decorative elements.

Historic

A variety of recent historic debris was recovered that undoubtedly reflects the late 1920's ranger station at the site and more recent hunting and camping. Of interest, however, was a white-clay pipe bowl fragment found along the shore-

line in 1987. This bowl is undecorated, except for a fine dentate stamp encircling the exterior lip edge. Such decoration has been observed on other white-clay bowls, that also have more familiar markings such as "T.D." and other varieties. These other pipes conform in age to about 1820-1850 (R. Birmingham personal communication), and thus this bowl fragment likely represents a trade pipe contemporary with historical accounts of Winnebago camps at Rice Lake.

Private Collections

In addition to the assemblages recovered and curated at MVAC, several private collections from this site and other island sites in Lake Onalaska were recorded through photography and are presented here (see Figures 41-58). One should note the number of Waubesa Contracting Stemmed and Monona Stemmed points that compliment the examples in the MVAC assemblage, and also the presence of two Late Archaic points (Figures 41 and 42), several Early Woodland straight stemmed (Kramer Points), and several Late Woodland/Oneota triangular points. In addition, other examples of drills and a grooved pebble net-sinker are exhibited.

The ceramics documented in the private collections also reveal varieties of Woodland types ranging from late Early Woodland, Prairie Phase to the Late Woodland Keyes Phase, but also include a number of pre-Prairie Phase, Marion Thick and Dan Punched sherds (see Figure 46 and 47) that probably represent the earliest manufacture of ceramics in the upper Midwest beginning about 250 BC (see Boszhardt 1982; Boszhardt et al. 1986). Furthermore, unusual varieties of Prairie Phase decorations such as rims with punctations pushed from both the inside and outside on the same vessel are represented (see Figures 51 and 52). Other examples of this decoration were identified at the Kipes Island site in Pool 6, and tentatively seen as mixing traits of both the Prairie Phase from the south and Laurel from the north (Boszhardt 1985). Another unusual Prairie Phase rim variation has punctates pushed into the lip top (see Figure 50).

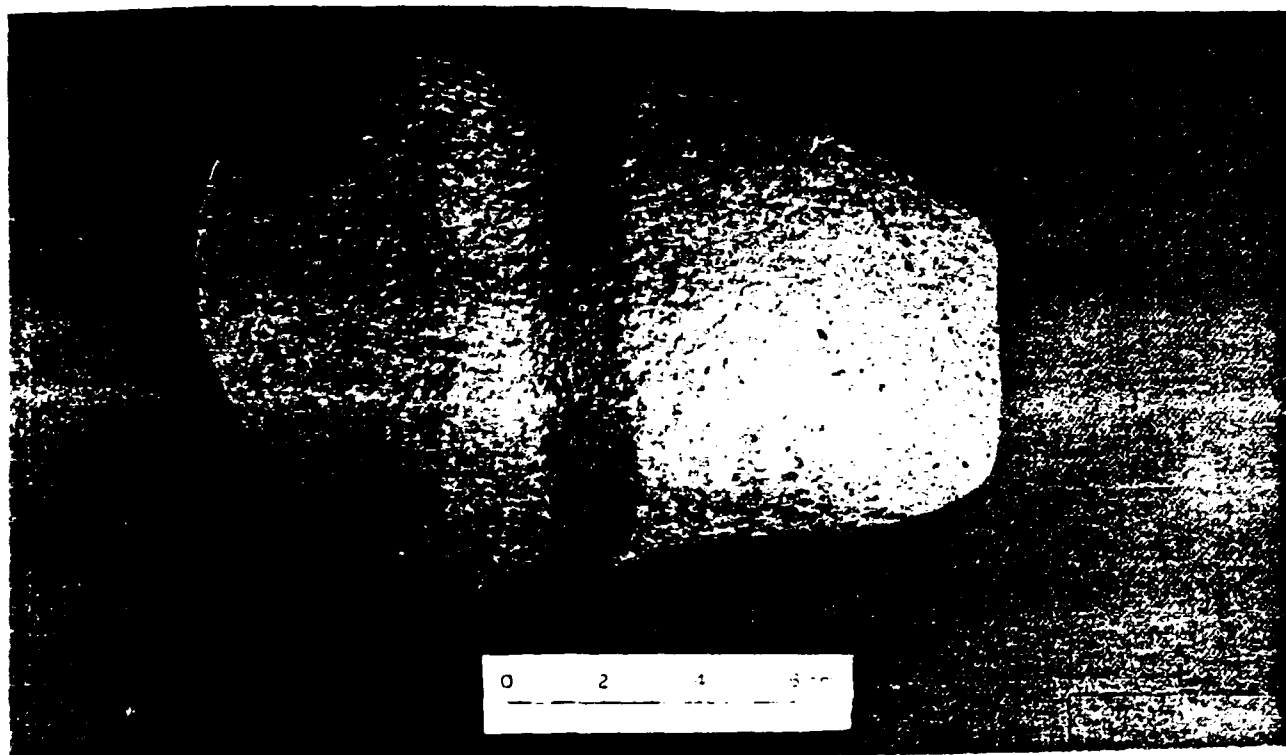
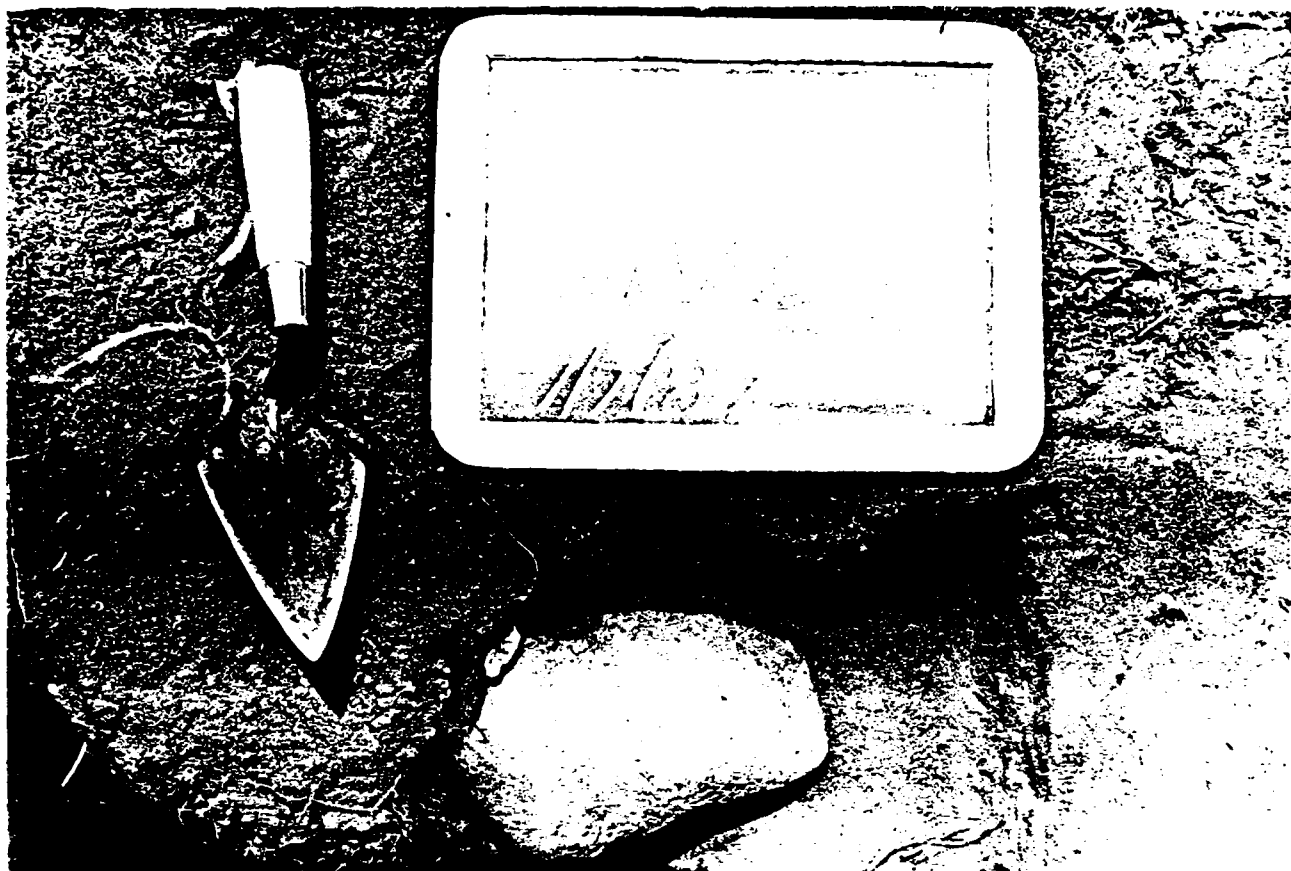
Finally, a series of white-clay pipe fragments exemplifying models manufactured and traded during the first half of the 19th century were documented (Figures 57 and 58, see also Figure 40). These include T.D. ("star and hatched"), "Gambier Paris," and other trade pipe varieties. These compliment the white-clay pipe bowl fragment recovered by MVAC in 1987 and may reflect historic accounts of Winnebago encampment in this area during that period.



Figure 31: Chipped stone tools from 1986 MVAC investigations at 47Le160.



Figure 32: Chipped stone tools from 1987 MVAC investigations at 47Le160.



Figures 33 and 34: Full grooved axe in situ and in lab. Recovered from the base of the Natural A-Horizon during 1987 excavation of the grass platform.



Figure 35: late Early Woodland (Prarie Phase-like) ceramics from MVAC investigations at 47Lc160. Sherds to right exhibit unusual fingernail impression design.



Figure 36: Middle Woodland (Trempealeau Phase) sherds from MVAC investigations at 47Lc160. Lower sherds are from Kegonsa Stamped vessel found in Feature 4.



Figure 37: Additional late Early Woodland (top) and late Middle Woodland (Millville Phase) (bottom) sherds recovered by MVAC from 47Lc160.

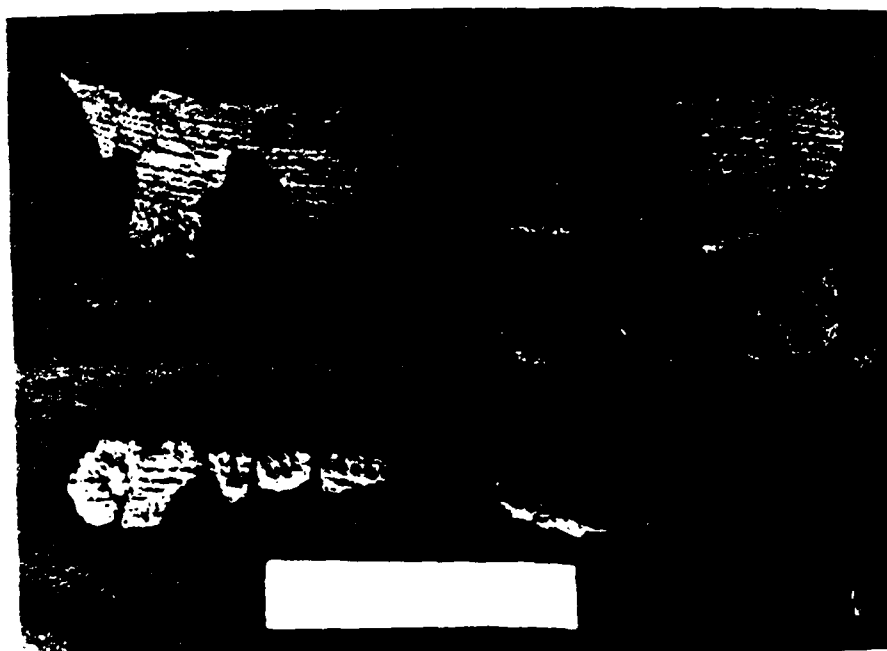


Figure 38: Top is Madison Cord Impressed vessel from Feature 17.
Bottom are Lane Farm Cord Impressed sherds.



Figure 39: Oneota sherds from 47Lc160 in MVAC collection.

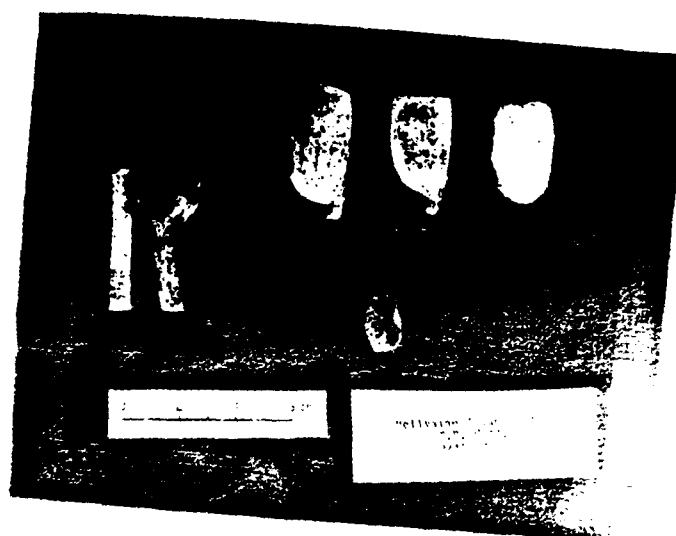
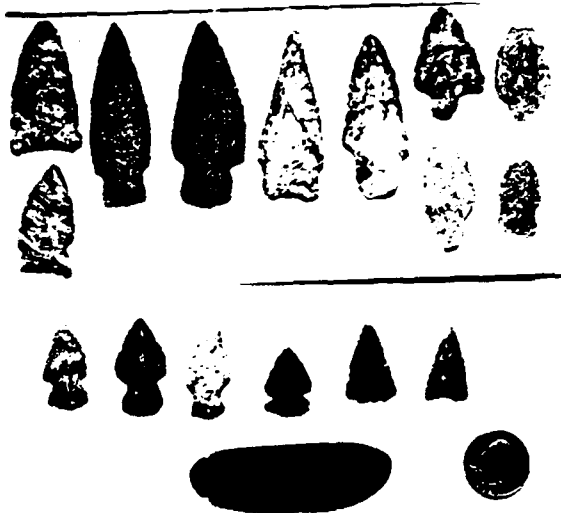


Figure 40: White-claypipes from 47Lc160 in private collection. These are of styles that were manufactured in the early decades of the 19th century, and correspond in age with accounts of Winnebago encampments and fur trade activity in this floodplain area.



5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Figures 41, 42 and 43: Lithic tools in private collections from 47Lc160. Note Late Archaic side-notched points in upper left, in addition to Waubesa Contracting stemmed (Early Woodland) and Monona Stemmed (late Middle Woodland), and Late Wood, and/Oneota Triangular points. Also perforators, scrapers, and notched pebble netsinker.

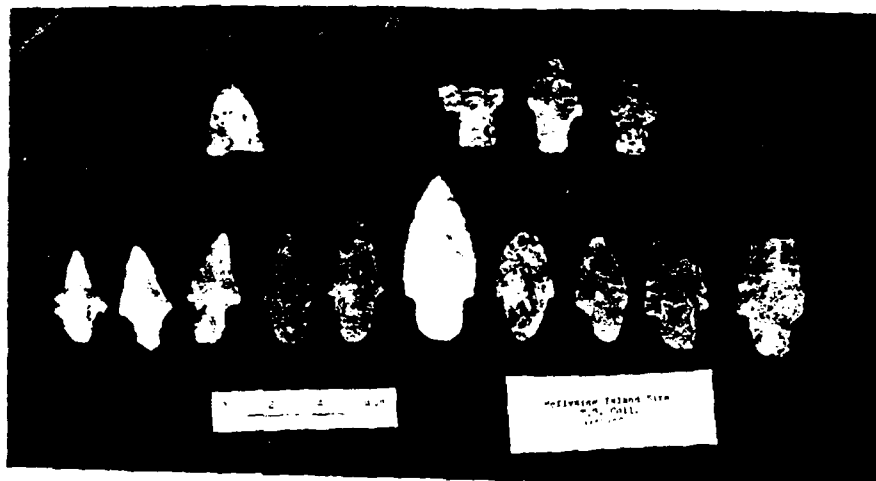


Figure 44: Late Archaic (upper left) and Early Woodland (Kramer and Waubesa) points in Private collection from 47Lc160.

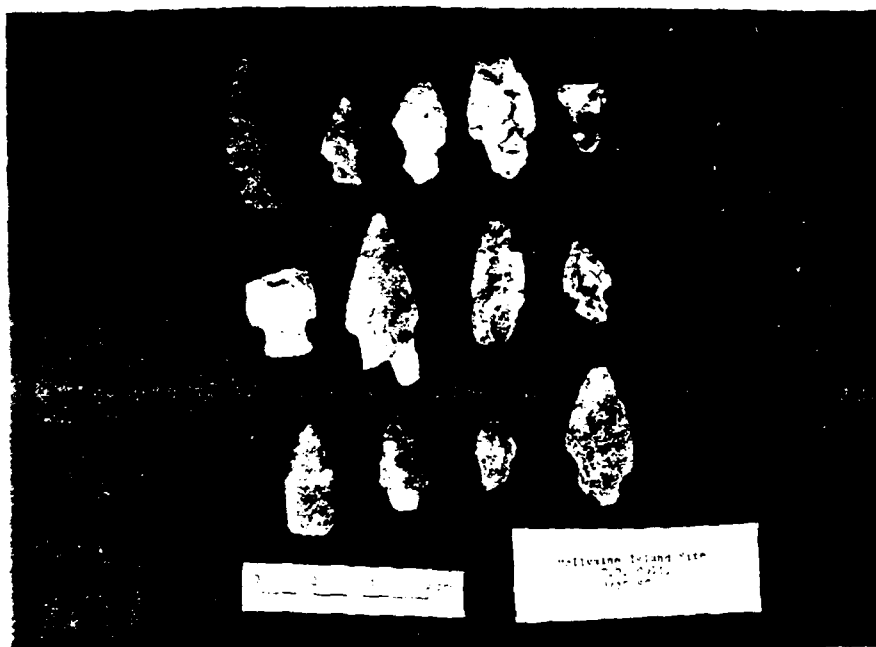
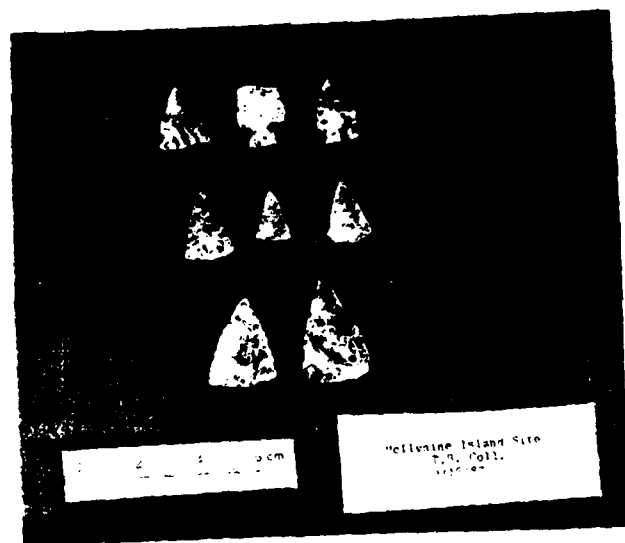
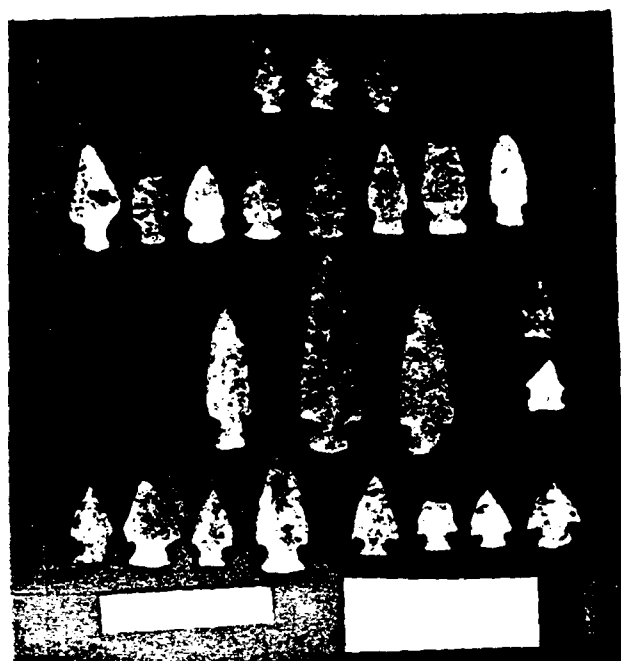


Figure 45: Miscellaneous points in private collection from 47Lc160.



Figures 46 and 47: Expanding stemmed varieties of late Middle Woodland (Monona Stemmed), and notched and un-notched Late Woodland Triangular points in private collections from 47Lc160.



Figure 48: Early Woodland (Marion) pottery from Lake Onalaska island sites in private collection.

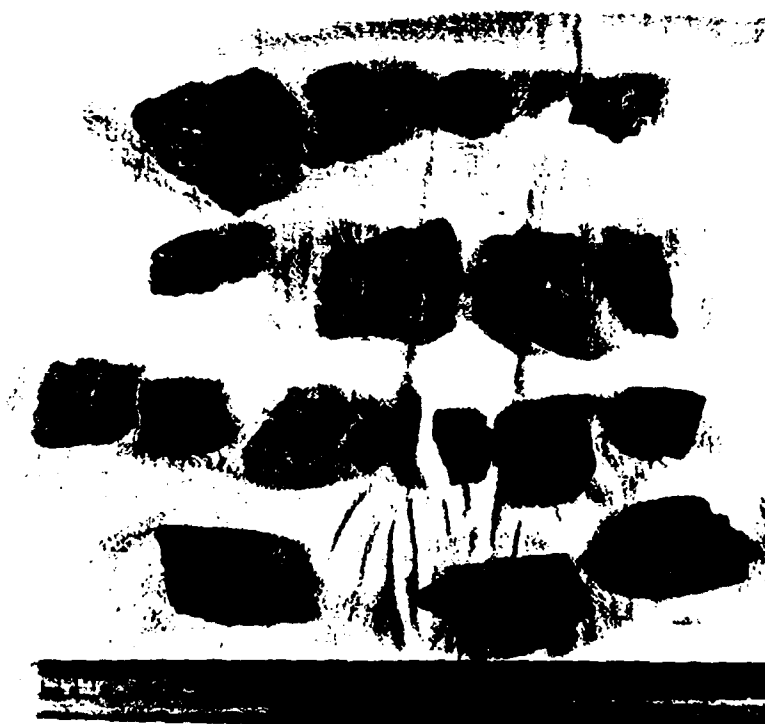


Figure 49: Early Woodland (Dane Punched) and late Early Woodland (sand-tempered) ceramics in private collection from 47Lc160. Note sherds in lower right are from same vessel as represented by sherds in Figure 33.

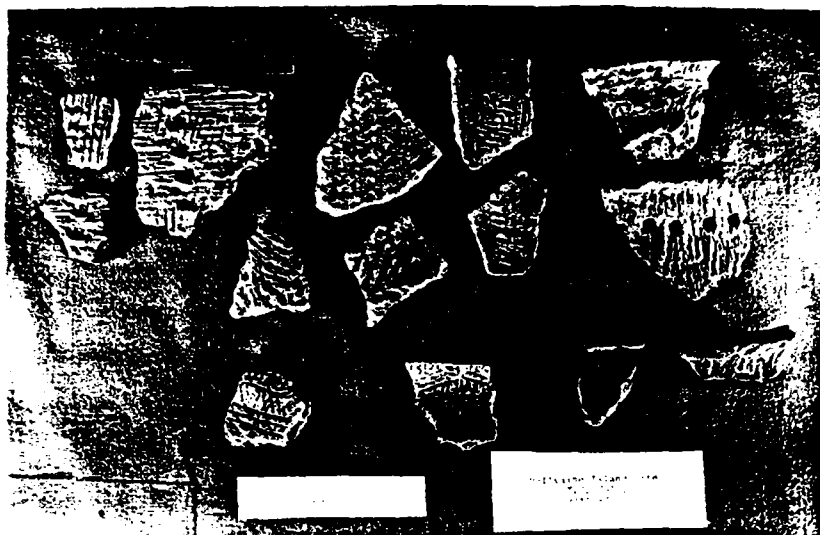


Figure 50: Other Dane Punched and late Early Woodland sherds from private collection of 47Lc160. Note punctations into lip top on sand-tempered rim to lower right.

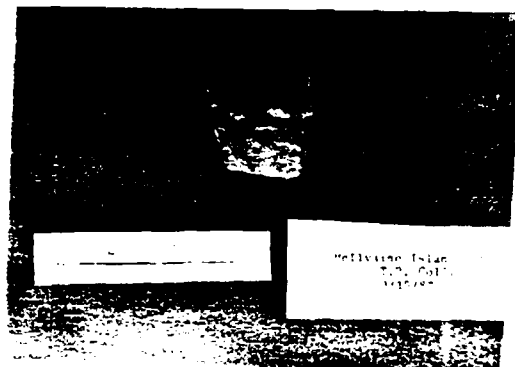
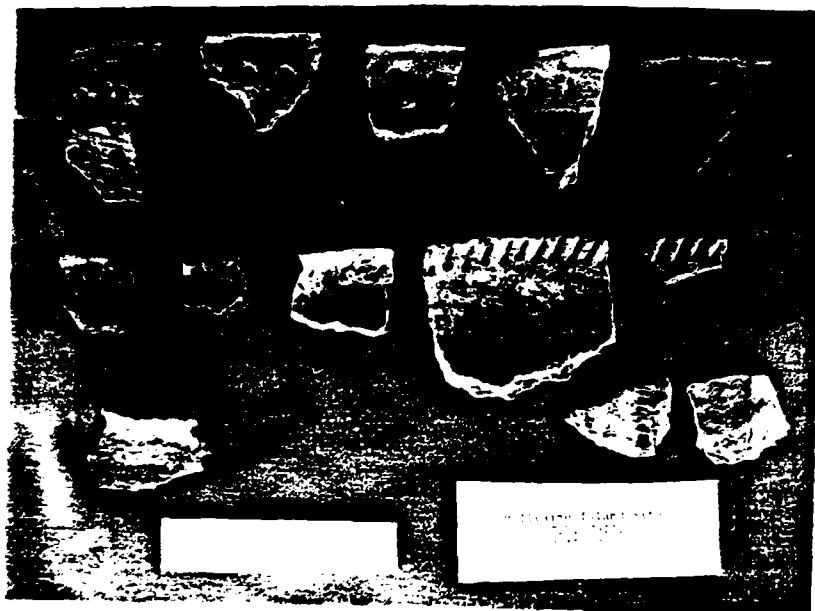


Figure 51: More late Early Woodland, sand tempered rims (top) and late Middle Woodland (Millville Phase) rims from private collection from 47Lc160. Note sherd(center top, and reverse at right) that has punctations from both interior and exterior surface.

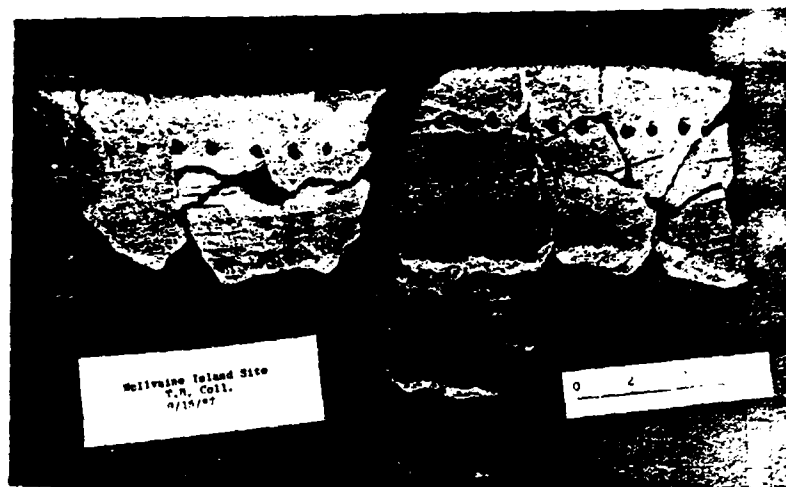


Figure 52: Probable late Early Woodland vessel in private collection from 47Lc160.

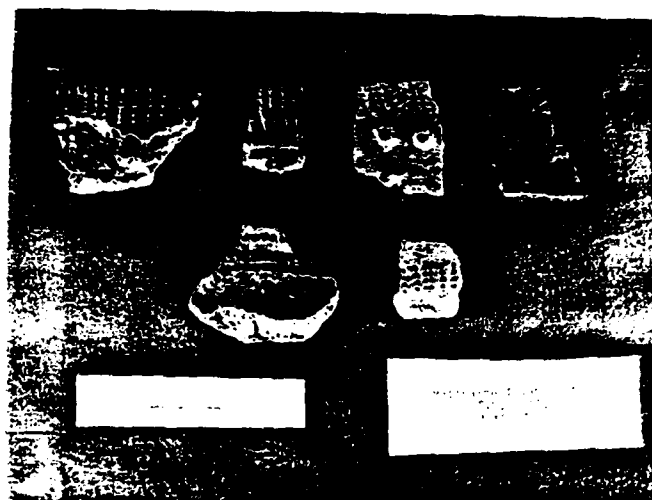


Figure 53: Late Middle Woodland (Millville Phase) sherds in private collection from 47Lc160.



Figure 54: Lane Farm Cord Impressed rims from same vessel in private collection from 47Lc160.

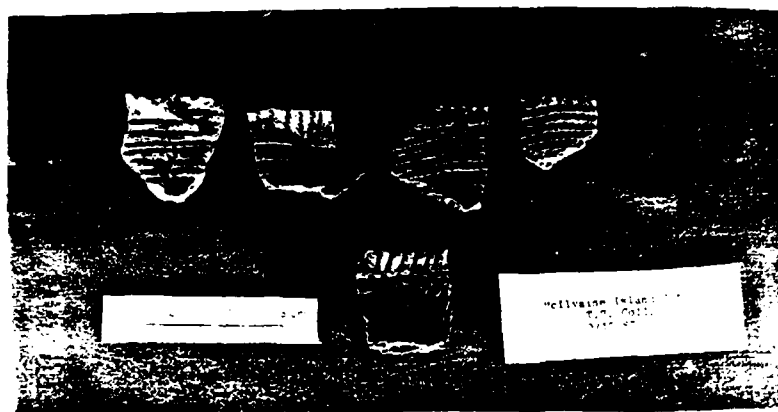


Figure 55: Other Lane Farm Cord Impressed rims in private collection from 47Lc160.

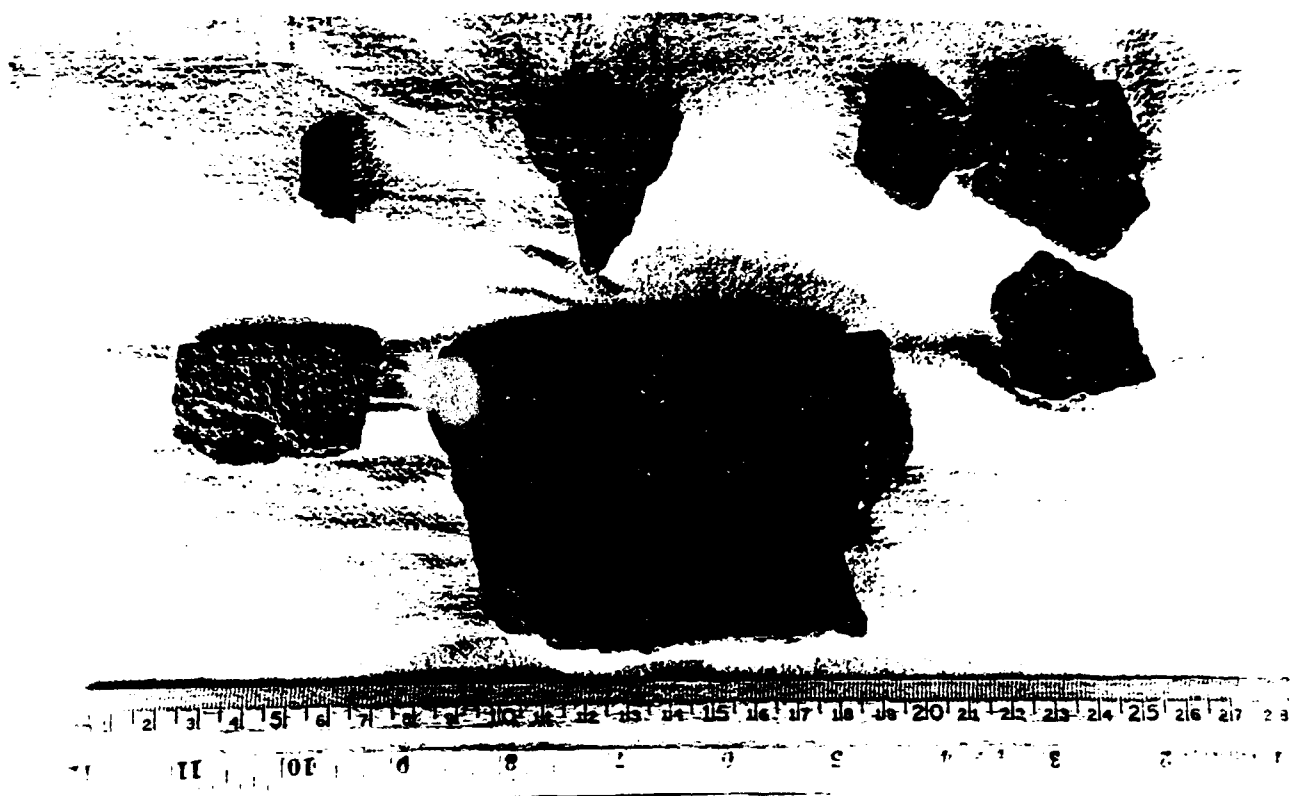


Figure 56: Additional Lane Farm Cord Impressed rims from another private collection (later donated to MVAC) from 47Lc160. Note top center rim is from same vessel as shown in Figure 53.

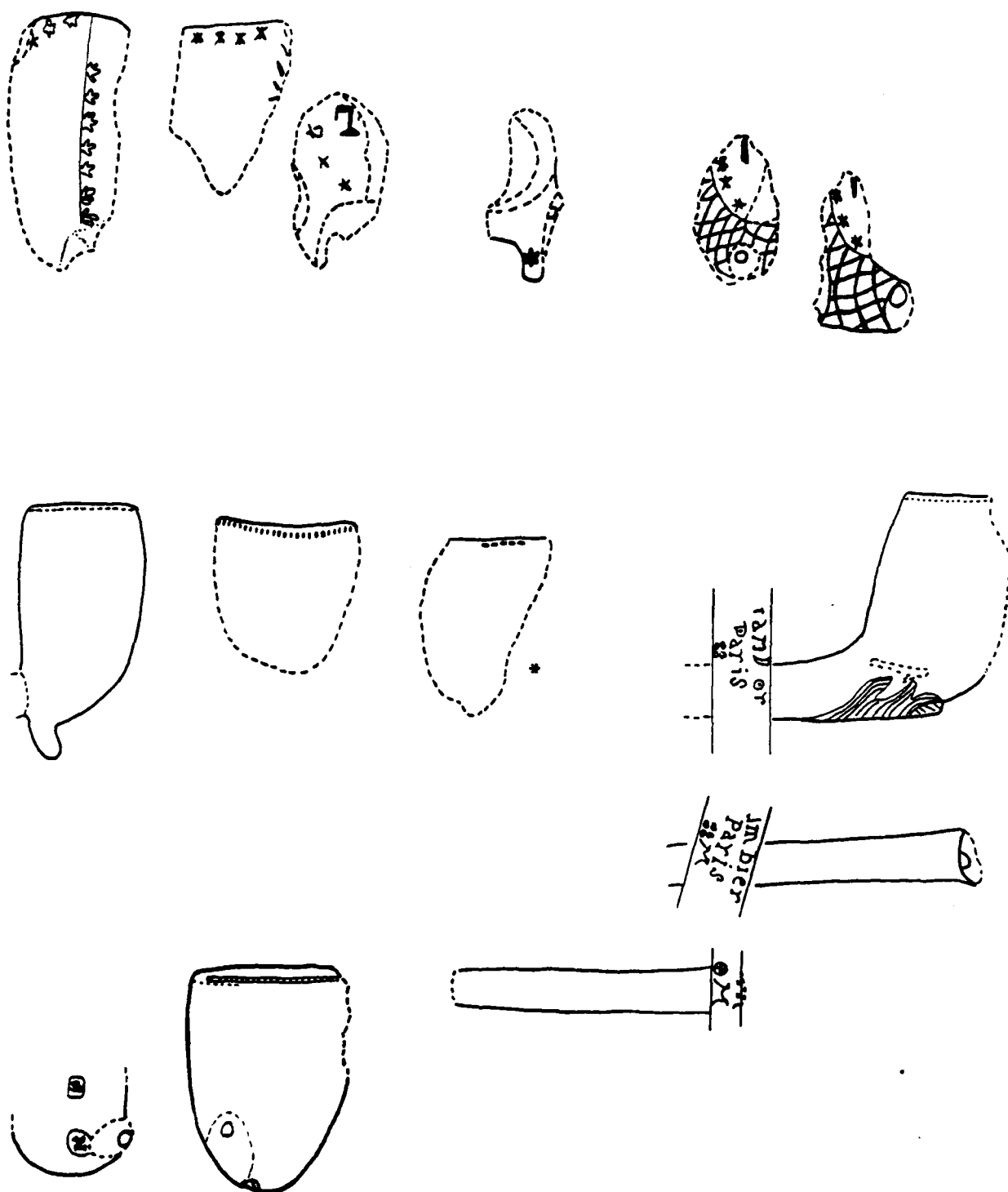


Figure 57: Mite-clay pipe fragments from 47Lc160. All but one denoted with * are in private collections. Top are variations of "TD" style, Right side are "Gambier Paris" style. Note fine dentate stamp along rim of Gambier Paris bowl that also appears on bowls to left. TD and Gambier Paris pipes were manufactured and traded in this region during the first half of the 19th century.

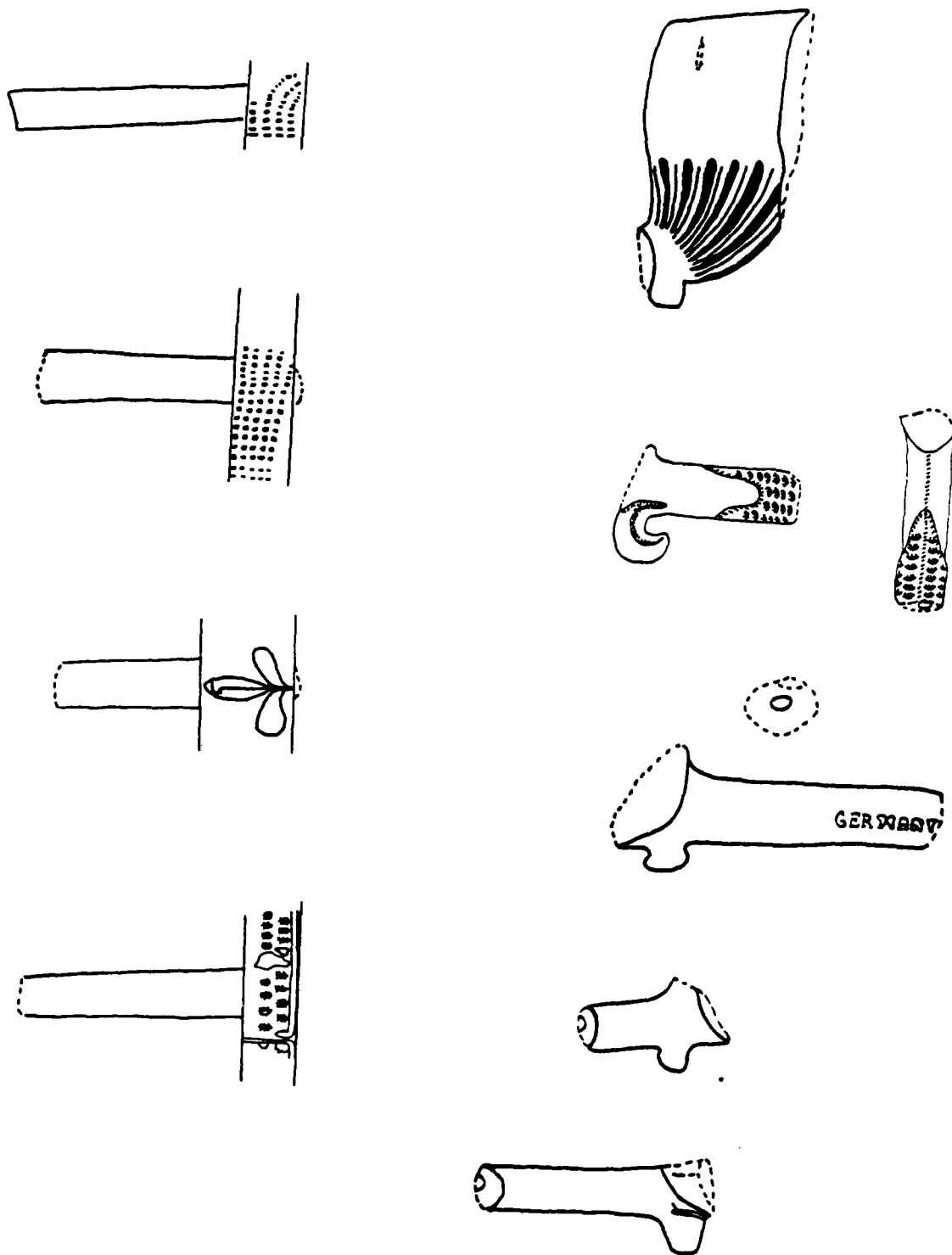


Figure 58: Other White-clay pipe fragments in private collections from 47Lc160.

EVALUATION AND CONCLUSIONS

Emergency investigations at the McIlvaine Island site (47Lc160) during 1986 and 1987 have added substantially to our understanding of past utilization of the Pool 7 area of the upper Mississippi River. Here, where the tributary Black River has formed an extensive delta rich in riverine and lacustrine resources, the McIlvaine site offered an ideal raised camping spot.

The Investigations of this site were prompted because human skeletal remains were located, and the island is eroding so rapidly. The studies were based on scopes of work that initially sought to recover additional possible burials or identify other significant remains. Later the project was expanded to mitigate the most severely threatened east end of the island, and a more thorough research plan was established. The latter study was not only to salvage burials if found but to also assess the integrity of the deposits, document the past periods of site utilization, compare the materials to adjacent regions, and to evaluate the age of the burials.

Overall, the project successfully met these objectives. For example, it found that the site does indeed harbor relatively undisturbed cultural deposits. These are in the form of numerous, closely spaced pit features (Figure 59), and general deposits of occupation debris within which most artifacts maintain relative stratigraphic position.

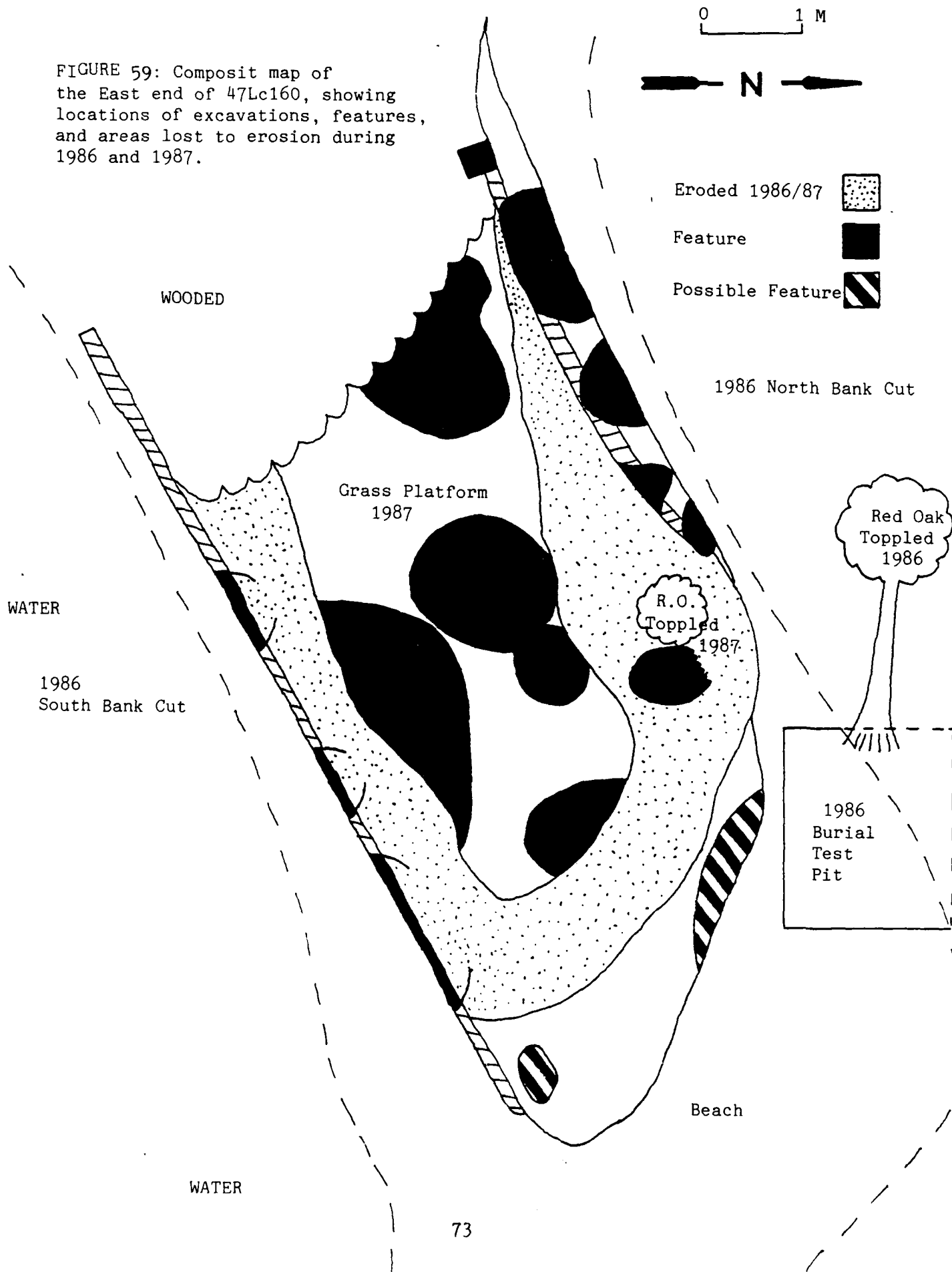
Furthermore, the study recovered and documented artifacts that indicate use from Late Archaic (ca. 3000 BP) to historic Native American of the 1840's. Based on the position of the Late Archaic materials at the base of the organic soil horizon, it has been inferred that this initial occupation coincided with important environmental changes. Specifically, the Late Archaic component likely coincides with the transition from warm/dry to cool/moist conditions, and a probable coinciding increase in floodplain economic resources.

In addition, based on relative quantities of diagnostic artifacts, it appears that the site was heavily utilized by late Early Woodland and late Middle Woodland groups. This agrees with reconstructions of floodplain use in the more extensively studied pool 10 area. However, by Late Woodland times there is apparently a lower population in the upstream pool 7 area than pool 10. This is reflected in the quantity of Late Woodland artifacts recovered at McIlvaine Island, and relatively few effigy mounds known for this area. Conversely, a demonstrated intensive Oneota occupation of the terraces at pool 7 is not so reflected from the McIlvaine materials despite documented heavy exploitation of floodplain resources by the Oneota and identification of some Oneota remains at this site.

Diagnostic artifacts from McIlvaine and other floodplain sites reveal localized adaptations to pan-regional styles. For example, late Early Woodland ceramics include vessel portions that closely approximate Prairie Phase vessels of pool 10 and undoubtedly are generally affiliated with Black Sand complexes in Illinois and other Midwestern manifestations of that stage. However, the majority of the sand-tempered vessels from pool 7 are distinctive from the pool 10, Prairie ware, and some show closer decorative resemblances to the north woods Laurel culture. Similar localized adaptations of generally southern ceramic styles with northern or even western influences are seen in Middle Woodland and especially late Middle Woodland ceramics at pool 7 as well.

Finally, the 1986 and 1987 investigations found that the skeletal remains that had eroded probably represent internments of historic Winnebago. Although no in-situ burials were located, this interpretation is based on the well-preserved condition of the human bone (in contrast to virtual absence of bone from all prehistoric contexts), historical references to Winnebago encampments in the immediate vicinity of the site during the 1840's, and recovery of numerous white-clay pipe fragments that date to that period.

FIGURE 59: Composit map of the East end of 47Lc160, showing locations of excavations, features, and areas lost to erosion during 1986 and 1987.



RECOMMENDATIONS

Based on the investigations at McIlvaine Island, it is apparent that this site contains significant cultural deposits. The site has been subjected to extensive destruction through erosion only since the formation of Lake Onalaska in conjunction with the 1937 completion of lock and dam #7. It is impossible to know what cultural resources have already been lost to erosion at this site, and equally frustrating to know that erosion continues and if not arrested, will soon completely destroy this site.

We see four options for the future of the site. First, no action could be taken and the site will soon be gone. Although the rate of erosion varies depending on the water level fluctuation and wind/wave action, it is likely the remaining island will not last an additional three to five years if no protective measures are taken. This is an unacceptable option given the significance of the cultural remains documented at this site.

A second option would be to completely mitigate the site. This option is only slightly better than the first option. Excavation would recover additional information about the site, but would also destroy the island. Furthermore, it is quite possible the remaining site area still harbors Native American graves which should not be excavated unless absolutely necessary. Excavation now would also preclude possible study in the future when techniques of recovery and analysis will undoubtedly be able to recover more information from the same site.

A third option would be to stabilize the shoreline using rip-rap or other methods. This option by far is favored over the first two. It would not only preserve the site (at least in the near future) but would also stabilize the island for wildlife habitat. This option may have the disadvantage of being infeasible, as it was proposed and funded in 1986 but could not be carried out due to unsuitable ice conditions on Lake Onalaska.

The fourth option is to use the remaining portion of the McIlvaine Site as a core for island rebuilding. This is the favored option in that it would not only preserve the site for the long term, but also create and maintain wildlife habitat. Furthermore, island building has already been proposed for wildlife purposes. The only drawback to this option is that if it is delayed for several years, erosion will probably already have destroyed the site.

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APPENDIX A

1986 SCOPE OF WORK AND PERMIT

ORDER FOR SUPPLIES OR SERVICES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER May 28, 1986	2. CONTRACT NO. (If any) Open Market	3. ORDER NO. 30181-00915 FY 86	4. REQUISITION/REFERENCE NO. 1
5. ISSUING OFFICE (Address correspondence to) U.S. FISH AND WILDLIFE SERVICE Federal Building, Fort Snelling Twin Cities, MN 55111		6. SHIP TO: (Consignee and address, ZIP Code) U.S. Fish and Wildlife Service Attn: Regional Historic Preservation Officer Federal Building, Fort Snelling Twin Cities, MN 55111	

7. TO: CONTRACTOR (Name, address and ZIP Code) Mississippi Valley Archaeology Center, Inc. Attn: Robert Boszhardt 1725 State Street La Crosse, WI 54601	8. TYPE OF ORDER <input checked="" type="checkbox"/> A. PURCHASE - Reference your price quote Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheets, if any, including delivery as indicated. This purchase is negotiated under authority of <input type="checkbox"/> B. DELIVERY - Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.
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9. ACCOUNTING AND APPROPRIATION DATA 30132-1260-846	10. REQUISITIONING OFFICE same as "SHIP TO"
11. BUSINESS CLASSIFICATION (Check appropriate boxes) <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> OTHER THAN SMALL <input type="checkbox"/> DISADVANTAGED <input type="checkbox"/> MINORITY <input type="checkbox"/> WOMEN-OWNED <input type="checkbox"/> LABOR SURPLUS <input type="checkbox"/> INTERESTED	12. F.O.B. POINT Destination
13. PLACE OF INSPECTION AND ACCEPTANCE	14. GOVERNMENT B/L NO.
15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) December 31, 1986	16. DISCOUNT TERMS net 30

17. SCHEDULE (See reverse for Rejections)						
ITEM NO. (A)	SUPPLIES OR SERVICES (B)	QUANTITY ORDERED (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)	QUANTITY ACCEPTED (G)
1.	Provide all materials, supplies, equipment and labor to investigate burials eroding out of an unnamed island in Lake Onalaska, Pool 7 of the Upper Mississippi River near river mile 704 in the SW 1/4, Sec. 36, T. 17 N., R. 8 W., La Crosse County, Wisconsin, as follows: --Excavate a 2X2 ^M meter unit at the femur and pelvis finds at the northeast edge of the island. --Clean slump bank for profile inspection, removing all exposed human bones and significant archeological materials. --Study all undisturbed portions of the approximately 10X20 ^M meter island for archeological remains and evidence, by conducting shovel tests at 2 ^M meter intervals.	1	job		\$1,979.00	

18. SHIPPING POINT SEE BILLING INSTRUCTIONS ON REVERSE	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	17(H). TOT. (Cont. pages)
Same as "SHIP TO"			\$1,979.00
			17(I). GRAND TOTAL

22. UNITED STATES OF AMERICA

Lynn M. Kelley

NAME & WARRANT NUMBER (If any)
Lynn M. Kelley, FWS 39639

TITLE CONTRACTING ORDERING OFFICER

ORIGINAL

CONTINUATION SHEET

915 86

2 2

NAME OF FIRM OR INDUSTRY

Mississippi Valley Archaeology Center, Inc.

ITEM NO.

SUPPLYING SERVICES

QUANTITY

UNIT

UNIT PRICE

AMOUNT

--Clean, record and preserve archeological materials.

--Curate all materials including artifacts, bones, and field notes of the Mississippi Valley Archaeology Center, Inc., under terms of Cooperative Agreement 14-16-0003-85-908 at no additional cost to the U.S. Fish and Wildlife Service.

--Submit draft and final written reports in accordance with "Wisconsin Archaeological Survey, Recommended Guidelines, for Archaeological Reports for Environmental Assessments" and NTIS Form 272.

--Contact the Regional Historic Preservation Officer (612/725-4696) in advance of field work to allow for on-site visit during field work.

--Contractor will obtain Special Use Permit from the District Manager, La Crosse District, prior to field work.

--Field work is to be completed within 30 days.

Invoice to be submitted upon completion of final report.



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Upper Mississippi National Wildlife Refuge
River

SPECIAL USE PERMIT

Station No. to be Credited

32572

Permit Number

10411

Date

June 2, 1986

Period of Use (inclusive)

From June 2 19 86

To July 3 19 86

Permittee Name

Robert Boszhardt
Mississippi Valley Archaeology Center, Inc.

Permittee Address

1725 State Street
La Crosse, Wisconsin 54601

Purpose (specify in detail privilege requested, or units of products involved)

Archaeological investigation as detailed on attached Order for Supplies or Service (contract)

Description (specify unit numbers; metes and bounds, or other recognizable designations)

Investigation to take place on unnamed island in Lake Onalaska, Pool 7 of the U.M.R. near river mile 704 in the SW $\frac{1}{4}$, Sec. 36, T. 17 N., R. 8 W., La Crosse County, Wisconsin

Amount of fee \$ N/A if not a fixed payment, specify rate and unit of charge: _____

☐ Payment Exempt - Justification:

☐ Full Payment

☐ Partial Payment - Balance of payments to be made as follows:

Record of Payments

N/A

Special Conditions

None

This permit is issued by the U.S. Fish and Wildlife Service and is subject to the provisions of the National Wildlife Refuge System Administration Act, 16 U.S.C. 668, and the regulations thereunder, and to the conditions and requirements appearing on the back of this permit.

Permittee Signature

Issuing Officer Signature and Title

Richard A. Steinbach, District Manager

APPENDIX B

1987 SCOPE OF WORK AND PERMIT

<input checked="" type="checkbox"/> CHECKED BOX APPLIES		<input type="checkbox"/> ORDER FOR SUPPLIES OR SERVICES		<input type="checkbox"/> REQUEST FOR QUOTATIONS NO. RETURN COPIES OF THIS QUOTE BY THIS IS NOT AN ORDER See DD Form 1155r		PAGE 1 OF	
1 CONTRACT PURCH ORDER NO DACW87-86-M-1721		2 DELIVERY ORDER NO		3 DATE OF ORDER 86 SEP 26		4 REQUISITION PURCH REQUEST NO NCSPO-ER-R-350	
5 ISSUED BY DEPARTMENT OF THE ARMY ST. PAUL DISTRICT, CORPS OF ENGINEERS 1135 U.S. P.O. & CUSTOM HOUSE ST. PAUL, MINNESOTA 55101		6 CODE		7 ADMINISTERED BY (if other than 6) This transaction is for the sole use and benefit of the United States and is exempt from the Minnesota Sales and Use Tax (Minn. Stat. 297A, Laws, Extra Session 1967, Ch. 32). District Engineer U. S. Army Engineer District, St. Paul		8 DELIVERY FOB <input checked="" type="checkbox"/> DEST <input type="checkbox"/> OTHER (See Schedule if other)	
9 CONTRACTOR/QUOTER MR. JAMES GALLAGHER MISSISSIPPI VALLEY ARCHAEOLOGICAL CENTER 1725 STATE STREET LA CROSSE, WI 54601		10 CODE		11 FACILITY CODE		12 DELIVER TO FOB POINT BY ON OR BEFORE 86 SEP 30	
13 NAME AND ADDRESS		14		15		16 CHECK IF BUSINESS IS <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> SMALL DISADVANTAGED <input type="checkbox"/> WOMEN-OWNED	
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SCOPE OF WORK
PHASE III CULTURAL RESOURCES INVESTIGATION
AT THE McILVAINE SITE (47-LC-160)
McILVAINE ISLAND - LOWER POOL 7

1.00 INTRODUCTION

1.01 The Contractor will undertake a Phase III mitigation of the eastern portion of McIlvaine Island which is severely eroding from high pool level in Lower Pool 7.

1.02 This cultural resources investigation partially fulfills the obligations of the Corps of Engineers (Corps) regarding cultural resources, as set forth in the National Historic Preservation Act of 1966 (Public Law [PL] 89-663), as amended; the National Environmental Policy Act of 1969 (PL 91-190); Executive Order (EO) 11593 for the "Protection and Enhancement of the Cultural Environment" (Federal Register, May 13, 1971); the Archeological and Historical Preservation Act of 1974 (PL 93-291); the Advisory Council on Historic Preservation "Regulations for the Protection of Historic and Cultural Properties" (36 CFR, Part 800); and the applicable Corps regulations (ER 1105-2-50).

1.03 The laws listed above establish the importance of Federal leadership, through the various responsible agencies, in locating and preserving cultural resources within project areas. Specific steps to comply with these laws, particularly as directed in PL 93-291 and EO 11593, are being taken by the Corps "... to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archeological significance." A part of that responsibility is to locate, inventory, and nominate to the Secretary of the Interior all such sites in the project area that appear to qualify for listing on the National Register of Historic Places.

1.04 EO 11647 and the 1980 amendments to the National Historic Preservation Act further direct Federal agencies "... to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished or substantially altered." In addition, the Corps is directed to administer its policies, plans, and programs so that federally and non-federally owned sites, structures, and objects of historical, architectural, or archeological significance are preserved and maintained for the inspiration and benefit of the people.

1.05 This cultural resources investigation will serve several functions. The report will be a planning tool to aid the Corps in meeting its obligations to preserve and protect our cultural heritage. It will be a comprehensive, scholarly document that not only fulfills federally mandated legal requirements but also serves as a scientific reference for future professional studies. It will identify resources that may require additional investigations and that may have potential for public-use development. Thus, the report must be analytical, not just descriptive.

2.00 PROJECT DESCRIPTION

2.01 No specific project features will affect McIlvaine Island. At the present time, operation of Lock and Dam 7 is impacting the McIlvaine archeological site (47-LC160) located on the island by severely eroding the shoreline area. This island is owned in fee title by the U.S. Fish and Wildlife Service. The Service had plans to construct a bank protection project at this island during Fiscal Year 1985, but because of funding and time constraints, the project was never completed.

2.02 The McIlvaine site (47-LC-160) was first reported by the Mississippi Valley Archaeology Center in an archeological survey conducted on the floodplain of the Mississippi River in the vicinity of La Crosse. Preliminary investigations have been conducted recently by the Center to salvage eroding features and the remains of human skeletal material. Cultural material recovered from the site span Early Woodland to Oneota time periods.

2.03 Prior to construction of the Locks and Dams McIlvaine Island was a terrace remnant located on the floodplain of the Mississippi River. After inundation of Pool 7, this terrace remnant was separated from the mainland by waters of Lake Onalaska. Continued erosion along the shoreline of this island will eventually destroy this small island. At the present time, the island is probably no larger than 20 meters square.

2.04 Recovery of data at this site shall focus on those areas of the shoreline which are in immediate danger of being lost due to erosion or those areas which have a high potential of being lost within the near future. Erosion of the island appears to be worst on the eastern side of the island.

2.05 Data shall be recovered through excavation of formal test units of 1 meter x 1 meter size or larger. All excavated material will be screened through 1/4 inch mesh hardware cloth. Representative soil samples from features, levels, or zones should be processed by flotation and examined for floral and faunal remains.

2.06 Prior to initiating field work, the Contractor will submit a data recovery plan specifying the methods of excavation, analysis and interpretation. The plan should specifically address research questions pertinent to the archeology of the region which may be answered through data recovery.

3.00 DEFINITIONS

3.01 Cultural Resources include any building, site, district, structure, object, data, or other material relating to the history, architecture, archeology, or culture of an area.

3.02 A Phase I Cultural Resources Survey is an intensive, on-the-ground study of an area sufficient to determine the number and extent of the resources present and their relationships to project features. It will provide (1) data adequate to assess the general nature of the sites present; (2) recommendations for additional testing of those resources that may provide

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important cultural and scientific information; and (3) detailed time and cost estimates for Phase II testing.

3.03 Phase II Testing is the intensive testing of a resource that may provide important cultural or scientific information. This testing will result in (1) information adequate to determine whether the resource is eligible for inclusion on the National Register of Historic Places; (2) a Phase III mitigation plan for any eligible resources that will undergo a direct or indirect impact; and (3) detailed time and cost estimates for the mitigation.

3.04 Phase III Mitigation is the mitigation of the direct or indirect impacts of construction upon eligible sites through the systematic removal of data. It typically includes the excavation of either complete cultural deposits or a systematic sample of them and the thorough analysis and interpretation of the data recovered. The excavation, analysis, and interpretation methods must be adequate to address the important research questions based on which the resource was determined eligible. In addition, because the mitigation process destroys the resource, data should be recovered that may be needed to address future research questions.

4.00 PROJECT REQUIREMENTS

4.01 The Contractor will conduct a **Phase III mitigation** at the McIlvaine Site (47-LC-160), in accordance with Sections 2.00 and 3.04 above.

4.02 The Contractor's work will be subject to the supervision, review, and approval of the Contracting Officer's representative.

4.03 The Contractor will employ a systematic, **interdisciplinary approach** in conducting the study, using techniques and methods that represent the current state of knowledge for the appropriate disciplines. The Contractor will provide specialized knowledge and skills as needed, including expertise in archeology and other social and natural sciences, particularly fluvial geomorphology. A geomorphic perspective is especially important in light of recent debates concerning the Holocene development within the Mississippi River Valley near La Crosse. Particular attention should be paid to particle size analysis, to include both macro and microscopic analysis.

4.04 The Contractor will provide all **materials and equipment** necessary to perform the required services expeditiously.

4.05 The Contractor's investigation will include excavation, analysis, and interpretation sufficient to mitigate the impact of erosion on the site, through implementation of the approved data recovery plan as described in section 2.06 above.

4.06 The Contractor will implement the data recovery plan as presented, using the specified methods for excavation, analysis, and interpretation supplemented by additional methods at the Contractor's discretion. If the specified methods are not used, this decision will be justified in the Contractor's report. Any significant departure from the data recovery plan must be approved in advance by the Contracting Officer's representative.

4.07 The Contractor will **evaluate the interpretive potential** of the site or the materials recovered from it. The Contractor will provide descriptions and a written cost estimate for any displays, exhibits, or other means for presenting the information to the public that would be beneficial.

4.08 If it becomes necessary in the performance of the work and services, the Contractor will, at no cost to the Government, secure the **rights of ingress and egress** on properties not owned or controlled by the Government. The Contractor will secure the consent of the owner, or the owner's representative or agent, in writing prior to effecting entry on such property. If requested, a letter of introduction signed by the District Engineer can be provided to explain the project purposes and request the cooperation of landowners. Where a landowner denies permission for survey, the Contractor must immediately notify the Contracting Officer's representative and must describe the extent of the property to be excluded from the survey.

4.09 The Contractor will return all excavated areas as closely as practical to their original conditions.

4.10 The Contractor must **keep standard records** that include field notes and maps, excavation forms, photographs, and plan maps and profiles of excavation units and features.

4.11 Cultural materials and associated records from the study should be curated at an institution that can ensure their preservation and make them available for research and public view. **Curation** should be within the State and as close as possible to the project area. The Contractor will be responsible for making curatorial arrangements, coordinating them with the appropriate officials of the Wisconsin State Historic Preservation Office, and obtaining approval from the Contracting Officer's representative.

5.00 GENERAL REPORT REQUIREMENTS

5.01 The Contractor will submit the following documents, described in this section and Section 6.00: **field notes**, a **field report**, a **draft contract report**, and a **final contract report**.

5.02 The Contractor's **field report** will be a brief summary of the nature, extent, and results of the field work conducted. It may be in the form of a letter to the Contracting Officer's representative.

5.03 The Contractor's **field notes** will include legible copies of important notes and records kept during the investigation. Especially important are the daily field journal of the Principal Investigator or field director, field site survey forms, and excavation forms. One copy of these notes should be submitted to the Contracting Officer's representative with the draft contract report but should not be bound into the report.

5.04 The **draft contract report** will detail the approach, methods, and results of the investigation and make recommendations for further work. It will be submitted to the Contracting Officer's representative, who will review

it and forward it to other appropriate agencies for review. Comments will be returned to the Contractor, who will make the necessary revisions and submit the final contract report.

5.05 The Contractor's draft and final reports will include at least the following sections, as appropriate to the study. The length of each section depends on the level of detail required of the study and the amount of information available. The reports should be as concise as possible, yet provide all the information needed for evaluating and managing the project and for future reference.

a. Title page: The title page will provide the following information: the type of study; the types of cultural resources assessed (archeological, historical, and architectural); the project name and location (county and State); the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Management summary: This section will provide a **concise** summary of the study, containing all the information needed for management of the project. This information will include the reason the work was undertaken, who the sponsor was, a brief summary of the scope of work and budget, a summary of the field work and lab analysis, the limitations of the study, the results, the significance of the results, recommendations for further work, and the repository for records and artifacts.

c. Table of contents

d. List of figures

e. List of plates

f. Introduction: This section will identify the sponsors (Corps of Engineers) and their reason for the study and present an overview of the study with each site located on USGS quad maps. It will also define the location and boundaries of the study area (using regional and area-specific maps); define the study area within its regional cultural and environmental context; reference the scope of work; identify the institution that did the work and the number of people and person-days/hours involved; give the dates when the various phases of the work were completed; identify the repository of records and artifacts; and provide a brief outline of the report and an overview of its major goals.

g. Previous archeological and historical studies: This section will briefly summarize and evaluate previous archeological and historical research in the study area including the researchers, dates, extent, adequacy, and results of past work and any cultural/behavioral inferences derived from it.

h. Environmental background: This section will briefly describe the current and prehistoric environment of the study area, including its geology, vegetation, fauna, climate, topography, physiography, and soils. The relationship of the environmental setting to the area's prehistory and history

should be stressed. The level of detail in this section will be commensurate with that of the other report sections.

i. Theoretical and methodological overview: This section will state the goals of the sponsor and the researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied to achieve the goals.

j. Field methods: This section will describe all field methods, techniques, and strategies and the reasons for using them. It will also describe field conditions, relevant topographic/physiographic features, vegetation conditions, soil types, stratigraphy, general survey results, and the reasons for eliminating any uninvestigated areas.

k. Laboratory and analysis methods: This section will explain the laboratory methods employed and the reasons for selecting them. It will reference accession or catalog numbers of any collections, photographs, or field notes obtained during the study and state where those materials are permanently housed. It will also describe and justify the specific analytical methods used, including any quantitative analysis of the data, and discuss limitations or problems with the analysis.

l. Results: This section will describe the cultural resources information obtained during the study. As background, it will include each site's description, location, environmental setting, and current condition. It will present in detail the information recovered from the Phase III excavations, including the types, quantities, and distributions of remains and features, and any cultural/behavioral inferences that can be made.

m. Evaluation and conclusions: This section will formulate conclusions about the resources studied, including their relationships to other resources in the area, and their significance in terms of local and regional prehistory, protohistory, or history. It will attempt to answer the research questions outlined in the data recovery plan. It will also assess the reliability of the analysis, relate the results of the study to the stated goals, and discuss any cultural/behavioral patterns and processes that can be inferred from the results.

n. Recommendations: This section will recommend any further work necessary at the site. It will also suggest any future work that should be undertaken on the data recovered from the site, including work that goes beyond the research questions presented in the data recovery plan. It will also evaluate the potential for public interpretation of the site or its materials, including descriptions and cost estimates for any displays, exhibits, or other presentations that the Contractor concludes would be beneficial.

o. References: This section will provide bibliographic references in American Antiquity format for every publication cited in the report. References not cited in the report may be listed in a separate "Additional References" section.

p. Appendix: This section will include the Scope of Work, the data recovery plan, resumes of project personnel, copies of all correspondence relating to the study, and any other pertinent information referenced in the text.

q. Figures: The locations of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map bound into the report. In addition, the locations of all excavations will be indicated on maps of appropriate scale and detail, and keyed to the excavation forms included with the field notes. Other recommended figures are regional and project maps, photographs of the project area, and line drawings or photographs of diagnostic artifacts, and unit or feature profiles.

r. Tables: The report should include tables of cultural materials by site and provenience (for example, excavation unit and level). Information that may require more detailed tabulation includes lithic tool types and raw materials, ceramic attributes, and floral and faunal remains.

7 5.06 A cover letter submitted with the final contract report will include the project budget. *Isn't this new?*

5.07 The Contractor will submit to the Contracting Officer's representative the negatives for all photographs that appear in the final report.

6.00 REPORT FORMATS

6.01 There are no specific format requirements for the field report. A letter report is usually sufficient.

6.02 There are no format requirements for the field notes; however, they must be legible. If the original handwritten notes are illegible, they should be typed.

6.03 Formats for both the draft and final contract reports are as follows:

a. The Contractor will present information in whatever textual, tabular, or graphic forms are most effective for communicating it.

b. The draft and final reports will be divided into easily discernible chapters, with appropriate page separations and headings.

c. The report text will be typed, single-spaced (the draft report should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with 1.5-inch binding and bottom margins and 1-inch top and outer margins, and may be printed on both sides of the paper. All pages will be numbered consecutively, including plates, figures, tables, and appendices.

d. All illustrations must be clear, legible, self-explanatory, and of sufficiently high quality to be reproduced easily by standard xerographic equipment, and will have margins as defined above. All maps must be labeled with a caption/description, a north arrow, a scale bar, township and range,

map size and dates, and map source (e.g., the USGS quad name or published source). All photographs or drawings should be clear, distinct prints or copies with captions and a bar scale.

7.00 MATERIALS PROVIDED

7.01 The Contracting Officer's representative will furnish the Contractor with access to any publications, records, maps, or photographs that are on file at the St. Paul District headquarters.

8.00 SUBMITTALS

8.01 The field work completion date for this project will be 28 November 1986. The Contractor will contact the Contracting Officer's representative at least 7 days before the field work begins to discuss the field work schedule and plans.

8.02 The Contractor will submit reports according to the following schedules:

a. Field report: A brief letter report summarizing the field work and its results will be submitted to the Corps of Engineers within 14 calendar days of completion of the field work.

b. Draft contract report: Seven copies of the draft contract report will be submitted no later than 120 days after completion of the field work. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archeologist, and the National Park Service. The draft contract report will be submitted according to the report and contract specifications outlined in this scope of work.

c. Project field notes: One legible copy of all the project field notes will be submitted with the draft contract report.

d. Final contract report: The original and 15 copies of the final report will be submitted 30 days after the Contractor receives the Corps of Engineers comments on the draft report. The final report will incorporate all the comments made on the draft report.

9.00 CONDITIONS

9.01 Failure of the Contractor to fulfill the requirements of this Scope of Work will result in rejection of the Contractor's report and/or termination of the contract.

9.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other materials of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer's representative prior to the acceptance of the final report by the Government. **Dissemination of survey results** through papers at professional meetings or publication in professional journals is encouraged. However, professional discretion should be used in releasing information on site locations where publication could result in damage to cultural resources.

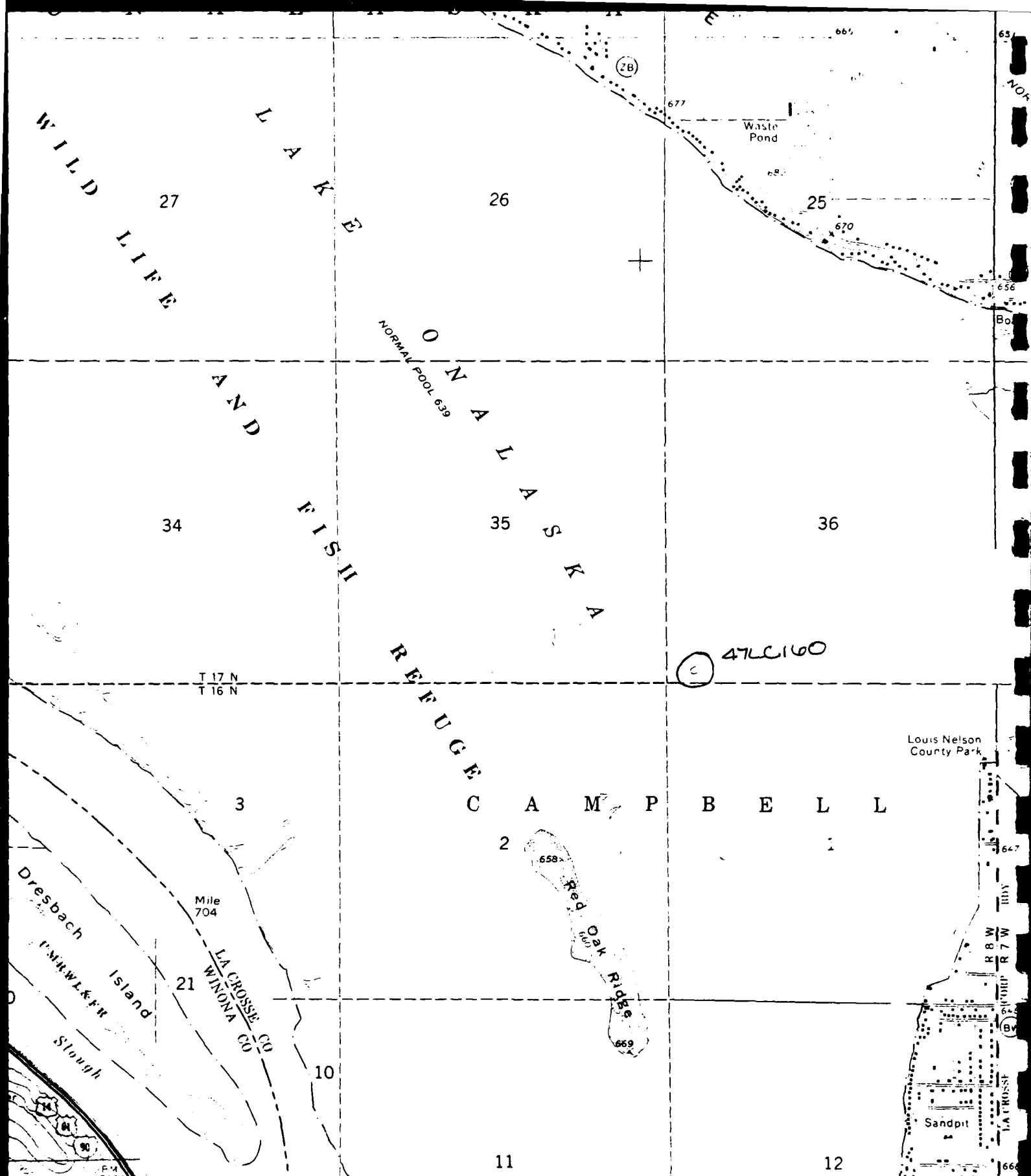
9.03 All materials, documents, collections, notes, forms, maps, etc., that have been produced or acquired in any manner for use in the completion of this contract shall be made available to the Contracting Officer's representative upon request.

9.04 Principal investigators will be responsible for the validity of material presented in their reports. In the event of controversy or court challenge, the principal investigator(s) will be placed under separate contract to testify on behalf of the Government in support of the findings presented in their reports.

9.05 The Contractor will be responsible for adhering to all State laws and procedures regarding the treatment and disposition of human skeletal remains. Any human remains encountered will be treated with respect and will not be placed on public display.

10.00 METHOD OF PAYMENT

10.01 The Contractor will make monthly requests for partial payment on EKV Form 93 under this fixed price contract. A 10-percent retained percentage will be withheld from each partial payment. Final payment, including the previously retained percentage, will be made to the Contractor upon approval of the final report by the Contracting Officer's representative.



1 650 000 FEET (WIS. CENTRAL) (LA CRESCENT)
 INTERCHANGE 1.4 MI
 NGE IWIS 27.27 MI
 SCALE 1 24 000
 HOLMAN, WS. QUAD
 1 MILE
 1 KILOMETRE
 CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 5-FOOT CONTOURS
 Primary highway
 hard surface
 Secondary highway
 hard surface
 Interstate R



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Upper Mississippi National Wildlife Refuge

SPECIAL USE PERMIT

Station No. to be Credited

32572

Permit Number

10430

Date

June 19, 1987

Period of Use (inclusive)

From July 1, 1987

To July 17, 1987

Permittee Name

Mississippi Valley Archaeology Center, Inc.
c/o Robert Boszhardt

Permittee Address

1725 State Street
La Crosse, WI 56401

Purpose (specify in detail privilege requested, or units of products involved)

Archaeological investigation as detailed on Corps of Engineers Contract to
Mississippi Valley Archaeology Center

Description (specify unit numbers; metes and bounds, or other recognizable designations)

Ilwaine
Investigation to take place on McIver island in Lake Onalaska, Pool 7 of the Upper
Mississippi River near river mile 704 in the SW $\frac{1}{4}$, Sec. 36, T17 N., R 8 W., La Crosse County,
Wisconsin.

Amount of fee \$ N/A if not a fixed payment, specify rate and unit of charge: _____

☒ Payment Exempt - Justification: Government contract with benefit to refuge.

☐ Full Payment

☐ Partial Payment - Balance of payments to be made as follows: _____

Record of Payments

Special Conditions

1. Permittee shall take care to minimize disturbance to vegetation on island.
2. Permittee shall provide for La Crosse district office a copy of the investigative report submitted to the Corps of Engineers.

Permittee Signature

Robert F. Boszhardt (G)
Robert Boszhardt

Issuing Officer Signature and Title

Richard A. Steinbach
Richard A. Steinbach, District Manager

Appendix B Continued

DATA RECOVERY PLAN

Background

Test excavations in 1986 at the McIlvaine Island site (47Lc163), documented in-situ prehistoric cultural deposits, in addition to recently eroded Native American burials. It is highly probable that the small remaining island portion of this site also contains significant cultural deposits, possibly including additional burials. The eastern end of the island is most seriously threatened with erosion. There, a grass section is fronted on the north, east, and south, by vertical banks that are eroding rapidly. This "grass platform" is approximately 3 x 8 meters. Along the north edge of the platform, a red oak (used as the datum for the 1986 test excavations) is threatened with toppling, because its root system has become exposed through erosion. In June of 1987, bone fragments were observed along the west edge of this root system, suggesting a possible eroding burial.

Based on surface collections and test excavations at this site, it appears that further investigation has the potential to address a number of research questions. Several are listed below, and will form the basis of our Phase III mitigation methods.

- 1) Further examine the nature of cultural deposits at the site; specifically addressing the question of integrity of contexts. Earlier research by the Great Lakes Archaeological Research Center suggested that this and sites on similar landforms do not have potential for harboring undisturbed cultural deposits; however, the 1986 testing identified a number of pit features observable below the Natural A-Horizon. Phase III mitigation of the eastern end of the island will not only salvage other pit features if they exist, but examine

the nature of cultural deposits within the overlying A-Horizon. Specifically, are materials situated in stratigraphic position or not?

2) What components are represented at the site. Investigations to date, have found diagnostic materials from Late Archaic through Oneota at this site. This range of materials conforms with components identified at floodplain sites throughout the upper Mississippi. Further investigations will substantiate the presence of these components, and possibly identify other components, through procuring a larger sample of the site.

3) How do component diagnostic artifacts compare to adjacent areas, and what does this tell us about inter-regional interactions? Diagnostic artifacts from pool 7 sites such as McIlvaine have produced the relatively large local samples of Woodland tradition remains, especially ceramics. Although, a refined type chronology for the immediate pool 7 locality has not been established, relatively accurate artifact chronologies are available for southwestern Wisconsin as a whole. Additional remains recovered from the McIlvaine Site mitigation, and from more extensive private collections will be compared with the existing type chronologies to identify similarities and variations.

4) What is the age of the burials? Skeletal remains from at least three individuals were recovered from eroded contexts at this site in 1986. Although, dental characteristics indicate Native American genetic affinities, it was impossible to ascertain a component age of the eroded burials. Additional excavations at the site may encounter in-situ burials, that may have associated diagnostic materials. This is especially promising in the area along the north shore, west of the red oak roots, where bone has been observed in June (1987). Furthermore, bone preservation may be an indication of the length of internment, when compared with bone from refuse pit deposits of various components.

Premission has been received from the Wisconsin Burial Sites Preservation Board to remove skeletal remains in lieu of their precarious position on the eroding island.

These are the major topics that will be addressed during our Phase III mitigation at the east end ("grass platform area") of the McIlvaine site. Based on the scope of work for this project, and considering these research objectives, we proposed the following excavation procedures.

- 1) Have the U.S. Fish and Wildlife Service cut the red oak, before it falls. This will enable investigation of the possible burial observed along the west edge of the exposed root system. If this is not done, toppling of the tree will likely pull out a several meter section of the grass platform including the possible burial.

- 2) Install snow fence around the parameters of the east end of the island. This will break waves, thereby slowing erosion, and create a sediment trap within which excavated back dirt may be deposited to create a tapered slope. It is hoped that the tapered slope will be more suited for vegetation to start, thereby slowing future erosion of the site.

- 3) Clear the existing vertical banks with shovel and trowel in order to create a profile that will allow observation of eroding pit features or other cultural deposits.

- 4) Excavation of the "grass platform" area of the site. This will be undertaken by skim shoveling through the Natural A-Horizon (70 cm thick). Artifacts will be separated by arbitrary 20 cm levels, although diagnostics materials will be piece-plotted. This will permit assessment of possible stratigraphic positioning of materials within the homogenous dark sand of the Natural A-Horizon. In addition, excavations will be conscious of locating

feature deposits within the A-Horizon. All soils excavated from the Natural A-Horizon of the "grass platform" will be deposited along the shorelines within the snow fence to create tapered slopes.

5) Upon reaching the base of the Natural A-Horizon on the "grass platform", the surface will be examined for evidence of cultural deposits that extend as pit features into subsoil sands. In addition, excavations will determine if the subsoil sand contains an early cultural horizon.

6) All features located will be mapped and excavated as individual excavation units. The features will be cross-sectioned with one half excavated by arbitrary level. The resulting profile will be mapped/photographed and examined for feature fill zonation. The remaining half will then be excavated, separating materials by zones identified in profile.

7) Field notes and excavation forms will be maintained throughout the investigation. All materials collected will be bagged and tagged will prove-nience designation and a field lot designation at the Mississippi Valley Archaeology Center Laboratory. The materials will be cleaned, sorted and catalogued prior to analysis. All forms and materials will be curated at the Mississippi Valley Archaeology Center.

Appendix C

Cultural materials recovered from various proveniences at McIlvaine Island
(47Lc160)

1986

General Surface

- 1 end scraper
- 1 undecorated grit-tempered sherd
- 1 decorated shell-tempered sherd

Shoreline Surface

- 2 projectile points
- 1 primary flake
- 2 secondary flakes
- 7 tertiary flakes
- 4 undecorated grit-tempered sherds

Water northeast shore near burial location

- 1 projectile point (fragment)
- 1 stage III biface tip
- 1 secondary flake
- 1 tertiary flake
- 1 unworked unidentifiable bone (probably human)

Burial test pit

- 1 stage III biface
- 1 drill
- 3 undecorated grit-tempered sherds
- 4 unidentifiable bone fragments (probably human)

North bank (surface)

- 1 stage III biface (tip)
- 4 secondary flakes
- 13 tertiary flakes
- 1 ground stone
- 281.4 g fire-cracked rock
- 2 decorated grit-tempered sherds
- 3 undecorated grit-tempered sherds
- 1 undecorated shell-tempered sherd
- 2 historic metal (1 nail, 1 12 guage shotgun shell)

South bank surface

- 1 groundstone

East bank surface

- 1 stage I biface (core)
- 2 tertiary flakes
- 1 decorated grit-tempered sherd
- 1 unidentifiable bone

Feature 1 (Bench)

- 1 secondary flake
- 1 undecorated grit-tempered sherd
- .3 g charcoal

Feature 1 (fill)

- 1 primary flake
- 11 secondary flakes
- 64 tertiary flakes
- 29.5 g fire-cracked rock
- 1 decorated grit-tempered sherd
- 16 undecorated grit-tempered sherd
- .3 g charcoal

Feature 2 (Bench)

- 2 secondary flakes
- 2 tertiary flakes
- 1 shatter
- .5 g fire-cracked rock

Feature 2 (fill)

- 1 modified flake
- 4 secondary flakes
- 17 tertiary flakes
- 2 undecorated grit-tempered sherds
- .5 g charcoal

Feature 3 (Bench)

- 2 secondary flakes
- 1 tertiary flake
- 16.3 g fire-cracked rock
- 5 decorated grit-tempered sherds
- 3 undecorated grit-tempered sherds
- 4 undecorated shell-tempered sherds

Feature 3 (fill)

- 1 drill
- 6 secondary flakes
- 26 tertiary flakes
- 2 shatter
- 166.4 g fire-cracked rock
- 6 decorated grit-tempered sherds
- 8 undecorated grit-tempered sherds
- 2 undecorated shell-tempered sherds

Feature 4 (Bench)

- 2 tertiary flakes
- 1 hammerstone
- 1 decorated grit-tempered sherd
- 2 undecorated grit-tempered sherds

Feature 4 (fill)

- 4 secondary flakes
- 19 tertiary flakes
- 1 shatter
- 2 decorated grit-tempered sherds
- 3 undecorated grit-tempered sherds

Feature 5 (profile)

- 1 primary flake
- 1 secondary flake

Feature 6 (profile)

- 1 secondary flake
- 1 tertiary flake

Feature 7 (profile)

- 1 knife/perforator
- 1 secondary flake
- .3 g charcoal
- 1 tertiary flake
- 1 rock

Feature 8 (profile)

- 3 historic (1 metal spike, 1 shattered light bulb, 1 cement fragment,
2 shingle fragments)

Bauman Collection (donated)

- 3 stage III bifaces
- 1 projectile point
- 1 retouched flake
- 2 tertiary flakes
- 1 hammerstone fragment
- 1 decorated shell-tempered sherd
- 15 decorated grit-tempered sherds
- 30 undecorated grit-tempered sherds
- 10 human bone fragments

Stolleson Collection (donated)

- 2 retouched flakes
- 1 hammerstone
- 9 secondary flakes
- 17 tertiary flakes
- 7 shatter
- 7 rocks
- 2 historic concrete

1987

Surface

- 1 projectile point
- 2 biface tips
- 2 biface mid-sections
- 2 biface bases
- 1 drill
- 1 scraper
- 2 modified flakes
- 1 worn flake
- 3 core fragments
- 4 primary flakes
- 63 secondary flakes
- 126 tertiary flakes
- 11 chunks
- 1 hammerstone
- 3 decorated shell-tempered sherds
- 2 undecorated shell-tempered sherds
- 8 decorated shell-tempered sherds
- 69 undecorated grit-tempered sherds
- 2 bone
- 6 human bone fragments
- FCR
- 2 historic metal (1 cartridge bottom)
- 1 historic brush stem
- 1 pipe fragment
- 1 misc.

North Bank Bench Scrapings

- 1 biface tip
- 3 secondary flakes
- 39 tertiary flakes
- 1 drilled stone (bannerstone)
- 5 undecorated grit-tempered sherds
- 1 bone

Grass Platform (0-25, 3-4 W) 0-20 cm (87.312)

- 1 biface tip
- 3 secondary flakes
- 3 tertiary flakes
- 1 undecorated shell-tempered sherd

Platform (0-25, 3-4W) 20-30 cm (87.313)

- 1 modified flake
- 2 secondary flakes
- 5 tertiary flakes
- 3 chunks
- 1 decorated shell-tempered sherd
- 1 decorated grit-tempered sherd
- 1 undecorated grit-tempered sherd
- 1 bone
- 1 metal

Platform (0-25, 3-4 W) 30-50 cm (87.314)

- 1 primary flake
- 6 secondary flakes
- 48 tertiary flakes
- 3 chunks
- 1 groundstone/hammerstone
- 7 decorated grit-tempered sherds
- 40 undecorated grit-tempered sherds
- 1 shell
- 1 charcoal (.1g)

Feature 17 (Late Woodland, Madison Cord Impressed vessel) 39040 cm in Natural
A 50-60 cm (316)

- 24 decorated rim sherds
- 31 undecorated grit-tempered sherds
- 7 undecorated grit-tempered sherds

Platform (0-25, 3-4 W) 57 cm (87.315)

- 1 projectile point (Waubesa Contracting Stem)

Platform 50-68 cm

- 1 stage III biface
- 1 projectile point
- 2 biface tips
- 1 end scraper
- 21 secondary flakes
- 123 tertiary flakes
- 4 chunks
- 3 groundstones
- 5 decorated grit-tempered sherds
- 28 undecorated grit-tempered sherds
- 290 g. FCR

Platform 68 cm

- 1 fully grooved axe

Platform (0-25, 3-4 W) 68-75 cm

- 1 modified flake
- 5 secondary flakes
- 22 tertiary flakes
- 2 chunks
- 8.5 g FCR
- 1 bone

Feature 10

- 1 biface mid section
- 1 core fragment
- 2 secondary flakes
- 36 tertiary flakes
- 69 undecorated grit-tempered sherds
- 1 bone

Feature 11

- 1 secondary flake
- 31 tertiary flakes
- 7 undecorated grit-tempered sherds
- .1 g charcoal

Feature 12

- 1 modified flake
- 4 secondary flakes
- 70 tertiary flakes
- 7.8 g FCR
- 1 tooth enamel (human ?)

Feature 13 (control block)

- 1 stage III biface
- 1 modified flake
- 9 secondary flakes
- 49 tertiary flakes
- 12 undecorated grit-tempered sherds

Trench X (Midden Feature 14/16)

- 1 primary flake
- 6 secondary flakes
- 13 tertiary flakes
- 1 abrader
- 45 g. FCR
- 1 shell-tempered sherd
- 1 bone
- .1 g charcoal

Feature 14

- 1 modified flake (?)
- 1 primary flake
- 8 secondary flakes
- 66 tertiary flakes
- 3 chunks
- 1 decorated grit-tempered sherd
- 9 undecorated grit-tempered sherds (several articulate with F-17 vessels)
- 1 undecorated shell-tempered sherd

Feature 15

- 1 biface tip
- 1 modified flake
- 1 biface fragment
- 10 secondary flakes
- 62 tertiary flakes
- 15 undecorated shell-tempered sherds
- 7 undecorated grit-tempered sherds (small ?)
- 2 decorated grit-tempered sherds (from same vessel as F-17)

Feature 16

- 9 secondary flakes
- 16 tertiary flakes
- .15 g charcoal

Appendix D

McIlvaine Island Human Remains (47Lc160)

By: Robert F. Sasso

Here is list of skeletal elements recovered from McIlvaine Island from the Debbie Bauman collection, the Jeff Stollson collection, and the MVAC collection. In general, the bone is eroded, making identifications and analysis somewhat difficult in many cases.

The Stollson collection contained numerous fragments from a single human skull. The mandible from this collection exhibits a male (squarish) chin, though the mandible is incomplete. The individual lost at least two teeth prior to death (the lower left second and third molars); the area on the mandible where these teeth were formerly located exhibits considerable alveolar resorption. In addition, there are indications of deep abscess in the area of the lower left third molar.

The maxillary fragments from this skull exhibit some alveolar resorption in the area of the upper right second and third molars, root caries on the medial interproximal surface of the right upper second premolar and on the distal interproximal surface of the right upper first premolar, and a shovel-shaped lingual surface on the left upper lateral incisor. Shovel-shaped incisors are common among Native American populations.

The Bauman collection contained left innominate fragments from two (apparently adult) individuals. In both cases, these elements exhibited a wide greater sciatic notch, indicating female individuals. One of these fragments exhibited lipping on the external edge of the acetabulum, presumably indicating arthritis.

Left and right portions of a mandible were also included in the Bauman collection. All six lower molars and the two left lower premolars were present; roots only were present for the lower left canine and left lateral incisor, the two lower right premolars, and the lower right canine. All complete teeth present with the exception of the lower third molars are worn to the point of exposing secondary dentin on the occlusal surfaces, suggesting the presence of an appreciable amount of grit in the diet. While no precise estimate of the individual's age is currently possible based on this evidence alone, it is clear that the individual was an adult, and was probably middle-aged at death. While this mandible is also incomplete, the shape of the chin is rather pointed, suggesting a female individual.

The presence of a male mandible and two separate female innominates indicates a minimum of three individuals represented in the combined collections analyzed.

47Lc160
McIlvaine Island
Human Remains

Bauman Collection (4/12/86; donated to MVAC)

1. Lt. Mandibular fragment
 - badly eroded external surface
 - all 3 molars and 2 premolars present; all except 3rd lt. molar worn to the point of exposing secondary dentin on occlusal surfaces
 - roots only present for lt. canine and lt. lateral incisor
 - portion of lt. and rt. central incisor sockets present
 - medial surface of mandible far less eroded
2. Rt. Mandibular fragment
 - same condition as above; missing upper ramus, condyle, and coronoid processes; chin somewhat eroded, making its use in sex estimation difficult, though it looks slightly more female
 - all 3 molars present; 1st broken and eroded; same wear pattern as above (left) mandibular fragment
 - roots only present for 2 premolars and canine
 - socket present for rt. lateral incisor, 1/2 socket present for rt. central incisor
 - medial surface far less eroded
 - portion of some mandible as #1 above
3. Lt. Innominate fragment
 - acetabulum fragment
 - greater sciatic notch (fragment); notch fairly wide, indicating female individual
 - portion of ischial spine
4. Lt. Innominate fragment (2nd individual)
 - ilium frag with iliac portion of acetabulum
 - greater sciatic notch area partially represented; width of notch suggests female
 - noted some lipping on external edge of acetabulum
5. Rt. Innominate fragment
 - acetabulum fragment, ischial portion
 - superior ramus of ischium
6. Rt. Femur fragment
 - upper 2/3 of shaft (to nutrient foramen) with linea aspera, portion of lesser trochanter
 - badly eroded anterior surface
7. Unidentifiable flat bone fragment (possibly acetabulum or superior orbit, etc.)
8. Unidentifiable long bone fragment (possibly tibia)

B. Stoleson Collection (donated to MVAC)

1. Lt. Temporal fragment
 - somewhat eroded, especially the mastoid process and squamous portion
 - 2 auditory ossicles recovered (Lt. malleus and incus)
2. Lt. Mandible fragment
 - with coronoid process; condyle separate but present; posterior ramus/angle separate but present
 - missing all teeth; sockets present for $2I$ through $1M$
 - antemortem loss of $2M$ and $3M$
 - some pathology in the area of $2M$ and $3M$, with considerable alveolar resorption in the area of these two teeth; and indications of deep abscess in the area of $3M$
 - incomplete, but structure of chin suggests male
3. Maxillary fragments
 - 12 teeth present: $3M$ $2M$ $1M$ $4P$ $3P$ C $2I$ ---- $P3$ $P4$ $M1$ $M2$ $M3$
 - some alveolar resorption evident in area of $M2$ and $M3$
 - root caries on the medial interproximal surface of the $P4$ and on the distal interproximal surface of $P3$
 - shovel-shaped lingual surface $2I$
4. Rt. Temporal fragments (2)
 - missing squamous portion
 - similarly eroded as #1 above
5. Rt. Parietal fragments (3 large)
6. Lt. Parietal fragments (2 large)
7. Frontal fragment
 - missing glabella and supraorbital margins
8. Occipital fragments (3)
9. Rt. Sphenoid fragment
 - rt. greater wing and foramina
10. Parietal fragment (5)
11. Lt. Sphenoid fragment
12. Axis fragment (2nd Thoracic)
 - dens, superior articular facets, centrum
13. Atlas fragment (1st Thoracic)
 - Lt. and Rt. articular facets, part of transverse process
14. Unidentifiable vertebral fragment
 - articular facets, probably thoracic
15. Rib fragment
 - articular facet of tubercle

B. Stoleson Collection (con't)

16. Rt. Scapular fragment
 - small area of glenoid fossa
 - acromion/spine
 - great scapular notch
17. Lt. (?) Innominate fragment
 - acetabulum
18. Lt. Femur fragment
 - head and neck areas badly eroded, exposing cancellous bone
 - medial part of shaft to area of lesser trochanter
19. Rt. Femur fragment
 - partial head and neck only
 - same condition as #18 above
20. Unidentifiable long bone fragments (6)
 - 2 probably non-human
21. Numerous (20-25) cranial fragments
 - some possibly identifiable

C. MVAC Collection

- 86.134.04 Unidentifiable long bone fragments (numerous, small)
- 86.135.05 Unidentifiable long bone fragments; 1 (possibly non-human) flat bone fragment
- 86.136.06 Probable Ulna or Radius fragment
 - badly eroded
 - possibly non-human

APPENDIX E
CORRESPONDENCE

April 25, 1986

John Dobrovolsky
Regional Historian
U.S. Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, Minn. 55111

Dear John,

This letter describes the recent findings of human skeletal remains from the McIlvaine Site (47Lc160) located on a small, severely eroding island in Lake Onalaska (Pool 7 of the upper Mississippi River). On Monday 4/14/86, we were notified of the finds by a private party, and immediately made arrangements to visit the site with this party and personnel of the Fish and Wildlife Service (Les Peterson). The following Wednesday we visited the site which forms the basis for this report (see sketch map). The private party has camped on the site for a number of years, and on Saturday (4/12) they found several bones in the water (high level) partially buried by sediments along the islands shore. One of these was a human mandible in fairly good condition. The mandible is of an adult (male?) with worn molars. The frontal premolars and incisors were badly damaged by the recent exposure. This bone was located apparently by itself on the southeastern edge of the island. The other bones include a diaphysis section of a human femur and sections of a pelvis (also human). These had been located together at the northeast edge of the island. All of these bones, along with a few artifacts found in redeposited contexts, are presently being curated at the Mississippi Valley Archaeology Center.

The contexts of the bones appear to have been redeposited; caused by erosion during this springs' high water surge. The island has lost a good 10-15 feet along the northeast, east, and southeast shores since last summer when I visited the site during investigations by the Great Lakes Archaeological Research Center. All of the collected remains were from newly formed benches about 1 meter below the vegetated surface of the island. While the bones may have slumped from this bank, and washed from their original positions, the close proximity of the femur and pelvis (two articulating bones), suggest that the burial location was near that find spot. It is also possible that the burial was in a fairly deep pit, and only partially exposed from lateral scouring along the new bench. If the latter was the case, it is possible that some of the burial may remain in situ on the bench. It is also possible that other burials may exist on the small remaining undisturbed portion of the island. I refer you to our report on multiple burials at the Kipes Island site (47Tr06) at the nearby Trempealeau Wildlife Refuge for a comparable situation.

In any case, it is clear that the McIlvaine site island had a burial of almost certain Native American affiliation that was at least partially disturbed this spring from water erosion, and that continued erosion will destroy any possible remaining burials or other significant cultural remains in a very short period. Faced with this situation, and despite the conclusions and recommendations of the recent study by the Great Lakes Archaeological Research Center, we strongly urge that further study be conducted at the McIlvaine site. Such a study should consist of a methodology which will insure the determination of the presence or absence of in situ burials or other significant cultural remains. We suggest an excavation unit placed at the location of the femur and pelvis find, in addition to cleaning the slump bank for profile inspection along with a thorough study of the remaining undisturbed portions of the island.

I have contacted Robert Birmingham of the Historic Preservation Division of the Wisconsin State Historical Society regarding appropriate consideration in lieu of the recent Wisconsin burial law, but have had no response yet. You may wish to contact him directly at 608-262-2907.

Given the severe nature of the active erosion at this site, especially during spring high water periods, we urge that the recommended study be undertaken this year. Quite literally, the island may not exist at this time next year. If you have any questions regarding this matter please feel free to contact me.

Sincerely,

Robert F. Boszhardt

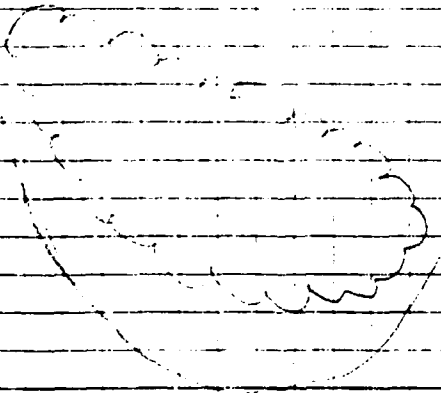
cc: Dick Steinback
Robert Birmingham
David Berwick

McJannet Site 4710160 11/16/86

LAKE QVALASTA

Approximately

20 meters



new
bench

(12)

new
bench
1986
crossing

6-SS

(3)

surface

Possible
burial
pits

N ↑

- 1. Fumar
- 2. Polyis
- 3. Me-d. 3/2

bench

Possible
burial
pit?

H₂O
level
still
high



Mississippi Valley Archaeology Center, Inc.

1725 State Street

La Crosse, Wisconsin 54601

(608) 785-8463

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La Crosse, WI

John Wabaunsee, Director
La Crosse Legal Services, Inc.

A. Vincent Weber, Dean
University of Wisconsin-La Crosse

June 19, 1986

John Dobrovolny
Regional Historian
U.S Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, MN 55111

Dear John:

This letter is to inform you of the preliminary results of our recent investigations at the McIlvaine Island Site (47Lc160) in Lake Onalaska (pool 7) of the Upper Mississippi River. This investigation was undertaken in response to reported burials found eroding from the site this spring. The field work consisted of mapping the island using compass and tapes, collecting exposed shoreline areas, cutting and cleaning eroded bank profiles on the north, east, and south shores of the island, and skim shoveling a 2 x 2 meter area at the reported location of the pelvis/femur human burial finds. Shovel testing at 2 meter intervals was not undertaken based on results obtained from the bank profiles indicating this methodology was unfeasible and unnecessary.

At the time of the study, the pool level had finally lowered to a reasonable level (8.5'). From shore to shore the island measured 35 m E-W x ca 10 m N-S. The main E-W axis lies 25° off the cardinal directions and thus is actually oriented NNW-ESE. The dimensions of the remaining uneroded portions of the island are 27 m E-W x 2-6 m N-S. The island is wider at the western end which is more thickly overgrown and is somewhat protected by the crowns of fallen trees. The eastern end of the island, where most of the erosion and investigations were undertaken, has been kept fairly clear over the years by campers, which may have contributed to the erosion. At the eastern end, below the natural surface, yet above the beach, is a small bench marking erosion from high water periods this spring.

The largest trees on the island (only two remaining) are red oaks with diameters at breast height of 2' or less. It is not known how old these might be, but likely date not much earlier than the 1936 pooling from lock and dam 7. The island soils are uniformly textured fine sands (a few small pebbles were found along with larger fire-cracked river cobbles which likely reflect human manuports to the island).

Stratigraphic soil and cultural information was obtained from two bank cuts along eastern portions of the north and south shores of the remnant undisturbed portion of the island. The resulting profiles revealed an organically enriched A-Horizon of 70-80 cm. This horizon overlay non-organic, light colored fine sands to a depth of nearly 2 meters where 2-5 cm thick reddish compacted lamellae were observed.

Cultural materials remaining or found in-situ were restricted to organic soils either in the 80 cm natural A-Horizon or in cultural pit features extending down into the light colored sands. Historic materials including glass, aluminum cans, iron, concrete, plastic, etc. were generally restricted to the upper 50 cm of the natural A-Horizon; however a few historic artifacts "trickled" down to about 70 cm. Prehistoric artifacts were found restricted to the organic soils below 60 cm. No clear evidence of stratigraphically separate prehistoric horizons were identified. However 7 clear prehistoric pit features were located and sampled in the north and south bank cuts.

The northern bank cut was 3.5 meters long and was cleared in a step manner reflecting an eroded 1 m wide bench 60 cm below the natural surface. Four pit features were located in this excavation:

Feature 1 is a large basin shaped pit extending 55-60 cm below the surface of the bench, or 45-50 cm into the light colored subsoil sands. The portion of the feature extending onto the bench was excavated and the fill screened through 1/4" mesh. Feature 1 contained few artifacts, but did yield a few middle Woodland sherds, numerous small flakes, and some charcoal. The feature extended southward into the undisturbed portion of the island an unknown distance.

Feature 2 was similar to Feature 1 though somewhat shallower. This pit extended 25-30 cm below the bench surface. The entire pit fill was excavated from the bench, and yielded a few flakes and Woodland sherds.

Feature 3 was a deep basin pit extending 55 cm below the bench surface. The pit yielded a good sample of decorated Middle Woodland pottery and flaking debris. Feature 3 extended into the remaining undisturbed portion of the island, and was not completely excavated.

Feature 4 was a deep pit 55-60 cm deep adjacent to Feature 3. Much of Feature 4 had been lost to erosion, leaving only a corner of the pit. This feature contained Woodland pottery, fire-cracked rock, and flaking debris.

The profile on the south side of the island was 10 meters long. Here there was no bench from high water erosion. Instead the bank dropped from the vegetated surface to a low beach--a distance of approximately 2.25 meters. A cluster of historic artifacts in the upper 40 cm of the natural A-Horizon indicated the presence of an historic garbage pit (Feature 8). This feature contained concrete, a long round nail, glass (including light bulb fragments) and shingle parts. These suggest that a structure probably dating no earlier than the 1920's once existed on the site.

Three pit stains were easily recognized extending deep into the light colored subsoil sands. All three of these are undoubtedly the result of prehistoric activity. These features were partially excavated, the only samples of artifacts were from vertically clearing the bank cut. Thus portions of all three of these features (5-7) remain in the undisturbed portion of the island.

Feature 5 is a deep straight walled pit extending 50 cm below the base of the natural A-Horizon. The pit profile contained 1 prehistoric flake.

Feature 6 is a shallower basin pit extending 30 cm below the base of the natural A-Horizon. This pit also yielded a single flake during cleaning of the profile.

Feature 7 is a very large pit nearly 2.5 meters across and extending to a depth of 1 meter below the base of the natural A-Horizon. The pit fill examined during profile clearing yielded a chipped-stone knife/drill, a flake, charcoal, and fire-cracked rock.

In addition to the materials recovered from in-situ feature contexts, the shoreline surface collection (including some materials from the shallow water) recovered several Woodland sherds, two Oneota sherds, a late Middle Woodland Monona Stemmed point, and the lower two-thirds of a nice Early Woodland Waubesa Contracting Stemmed point. The Waubesa point was found immediately below Feature 1 on the north side of the island, and may have been associated.

Also, along the eastern edge of the island, the high water bench extends several meters from the undisturbed portion of the island. The roots from a standing red oak extend into the northern part of this bench and prevented bank cutting. However, a distinctive organic stain apparent in the bench where the roots were held strongly suggested the presence of another prehistoric pit feature.


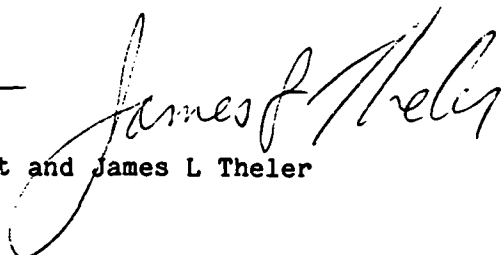
The location of the human pelvic and femur finds from earlier this spring was investigated by skim shoveling a 2 x 2 meter area. This location was now on the low beach of the island. These excavations found the area washed well into the light subsoil sands approximately 2.4 meters below the natural surface of the island. Two small bone fragments were recovered along with a few pottery sherds and flakes, and a chipped drill. These materials had been subject to redeposition after initial erosion. The bones complimented small fragments collected from the adjacent shallow water which were alternately, reburied and exposed through wave action. Thus, no evidence for remaining undisturbed portions of the burials were found.

In sum, our investigations at the McIlvaine site found the reported burials to have been completely washed out this spring. However, excavations of bank cuts along the northeast and southeast sides of the island found a dense concentration of undisturbed, though severely threatened, prehistoric pit features. These pit features contained refuse from Woodland camping activities nearly 2500-1500 years ago, and verify that the small remaining portion of the island still contains significant archaeological deposits. This contradicts suggested deflated contexts for Woodland remains as reported by the Great Lakes Archaeological Research Center from investigations at this and adjacent Lake Onalaska island sites last summer (Overstreet et al. 1986; GLARC Report of Investigation No. 163).

Finally, although the burial contexts reported from McIlvaine earlier this spring have been completely disturbed, (1) given the comparable multiple burial site at nearby Kieps Island (pool 6), (2) that the remnant portion of McIlvaine is the highest spot for nearly a mile, and (3) that in-situ pit features remain at the site, it is very likely that other burials may exist on the site. We

therefore strongly recommend that further consideration be given to management protection of the McIlvaine site, and other similarly threatened Mississippi River island sites.

Sincerely,

 
Robert F. Boszhardt and James L. Theler

ab

cc: Robert Birmingham
Dave Berwick
Dick Steinbach

PS. After completion of our field work at the McIlvaine site, we were contacted by a second private party who had collected human bones from the water adjacent to the original pelvic/femur find. These bones were found nearly a month ago. We have obtained temporary possession of these remains, which include several large cranial fragments (including shovel shaped incisor indicating Native American cultural affiliation), and a variety of other post-cranial elements. These remains along with all others obtained from this site this spring will be described in our final report to the Fish and Wildlife Service.



Figure 1: McIlvaine Island site from southeast. Note stumps in water indicating recent extent of erosion.



Figure 2: Erosion along northeast shore of McIlvaine Island site. The location of the femur/pelvis finds this spring were just to the right of the upturned roots of the fallen tree in the center of the photograph. Note the high water bench to the left.



Figure 3: Excavations of Bank Cut 1 along the northeast shore of McIlvaine Island. Note the high water bench approximately 60-70 cm below the undisturbed surface, and the pit feature stains protruding into the light colored sands below. This photograph shows Feature 4 at the left end of the bench, and Feature 2 at the right side of the photograph. Feature 3 is located in between, but was not exposed in the bench profile. Feature 1 is located to the right of the photograph.

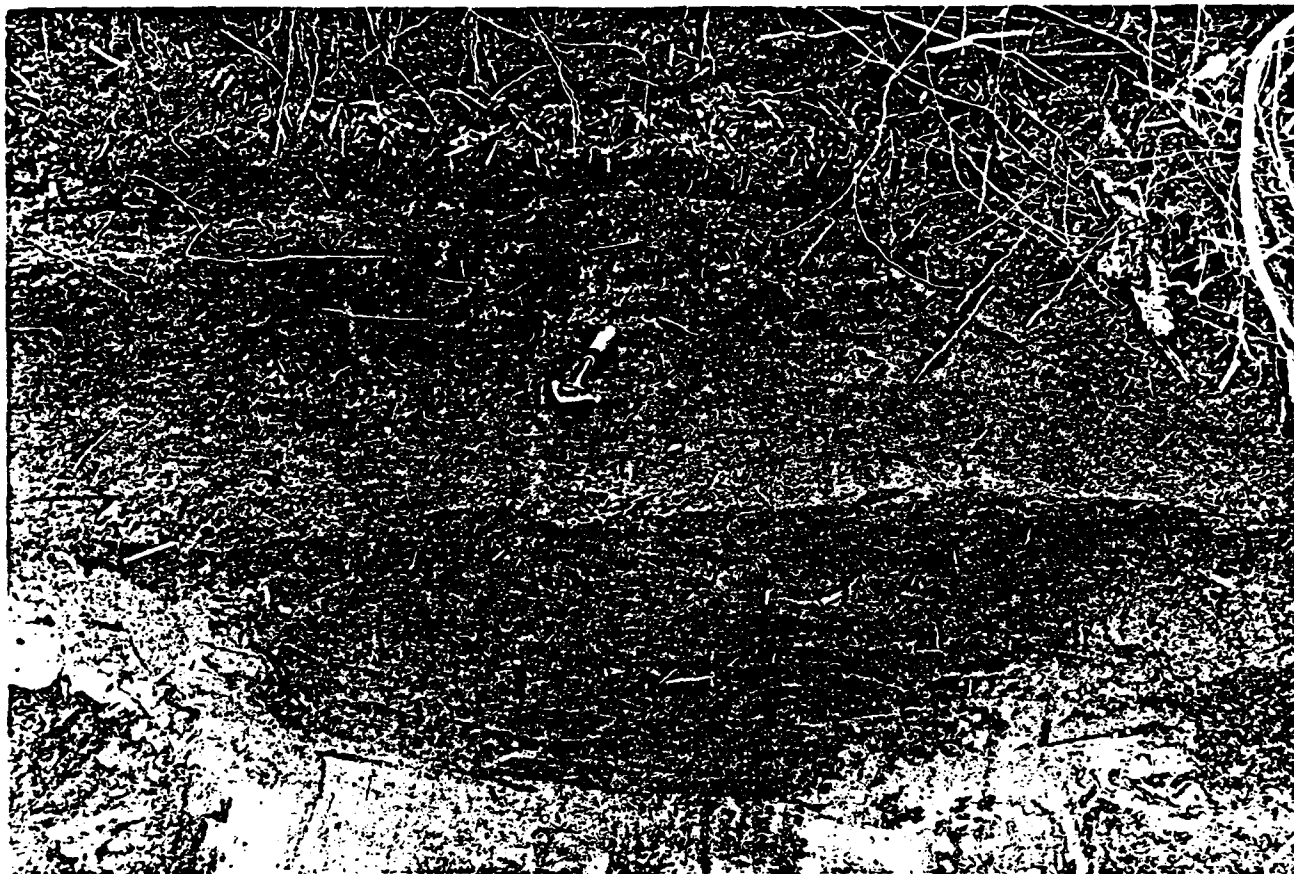


Figure 4: Cleaned profile of high water bench along the northeast shore of McIlvaine Island showing Feature 1, a Woodland pit.

July 31, 1986

David Berwick
Environmental Branch
St. Paul District Corps of Engineers
1135 U.S. Post Office and Customs House
St. Paul, MN 55101

Dear Dave:

In response to your request for information regarding the management of the McIlvaine Site (47Lc160) in Lake Onalaska (pool 7), I offer the following. To start with, I believe the site undoubtedly qualifies for a determination of eligibility for the National Register of Historic Places.

It seems to me that there are three alternative management options--only two of which are acceptable according to federal antiquities responsibility. The two acceptable choices of action are 1) bank stabilization through rip-rapping or other means and 2) salvage excavation (mitigation). Each of these options will require careful evaluation of long term usefulness to the cultural and natural resources before deciding on either, and also would need adequate funding. Unfortunately, these may be in conflict, and time is short for any proper management decisions. The unacceptable choice is to do nothing; an option which has dominated the destructive history of the site since pooling behind Lock and Dam 7 in 1936 until recently.

Bank stabilization was accepted and ready to be implemented by the U.S. Fish and Wildlife Service only a year ago. Unfortunately, the ice conditions on Lake Onalaska did not cooperate, and the funding was diverted to other expenses. I am not qualified to offer an accurate estimate to rip-rap cost for this particular site; however, I am led to understand that John Dobrovolsky (USF+W) has access to the figures for last years planned project. From conversation with local personnel (Winona USF+W), apparently the cost of trucking rip-rap over the ice will be affected by ice condition. John Steinbach, the local refuge manager in La Crosse, has indicated that long term plans for Lake Onalaska call for "island building", and it seems logical that existing McIlvaine could become the core of such an island. Also, I recommend referring to the appropriate sections of USF+W Resource Publication No. 149 "Mitigation and Enhancement Techniques for the Upper Mississippi River System and other Large River Systems" (1982), and other pertinent sources such as your 1983 Iowa City paper. I wonder if dredge spoil wouldn't be an effective measure on some of these sites? If bank stabilization was found to be cost effective in consideration of long-term sit protection (when weighed against the cost of salvage excavation, and in consideration of wildlife habitat needs), I believe this would be the best choice of action.

Archaeological salvage investigations are a second acceptable option, and could be undertaken in a "piecemeal" fashion as funds became available, or more favorably, as a single project. Excavation in stages has the disadvantage of scheduling difficulties, and, more importantly, loss of resources from continual erosion in between periods of salvage. Unfortunately, in salvaging features, one needs to clear away stabilizing vegetation, thus rendering the post-excavation shorelines vulnerable to accelerated erosion. One thing I learned this spring is that the island erodes very rapidly during periods of high water, and wind/wave action, but slows considerably during low water periods.

Given the situation at hand, where it is unlikely that bank protection will be initiated before next spring's high water period, I believe that some salvage work should be done this fall. This work should be undertaken at the eastern third of the island where erosion is much greater, and seven prehistoric features and burials were identified this spring (see map). The western two thirds of the island is somewhat protected from fallen trees, and is eroding less rapidly.

Our estimates are that for approximately \$3,000, excavations could recover remains immediately threatened by exposure in eroding bank cuts, currate the materials and report the findings. For about \$5,000 much of the threatened eastern portion of the island could be salvaged. Finally, the total mitigation of the island would cost about \$20-25,000. It should be emphasized that total mitigation would also destroy the island for wildlife habitat.

In conclusion, I am heartened that the Corps of Engineers may be able to aid in the management of cultural resources at the McIlvaine site, which is technically owned by the U.S. Fish and Wildlife Service. I believe that the site qualifies for, and should be determined eligible for inclusion to the National Register of Historic Places; and will eagerly cooperate in pursuing a determination. Finally, I believe that future management of this and other Lake Onalaska sites could be aided by the Corps, the Fish and Wildlife Service, and ourselves working with local groups such as the Lake Onalaska Rehabilitation organization. I hope that you find these suggestions useful.

Sincerely,

Robert F. Boszhardt

RFB/ab



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University of Wisconsin-La Crosse

June 15, 1987

Dick Steinbach
Refuge Manager
U.S. Fish and Wildlife Service
Post Office Building, Room 226
425 State Street
La Crosse, Wisc.

Dear Dick,

On Wed. June 10, myself and Dr. James Theler of the Mississippi Valley Archaeology Center visited the Mc Ilvaine site (47Lc160) in Lake Onalaska in order to assess the current condition of the island and plan for our upcoming excavations (July 6-10), under contract with the St. Paul District Corps of Engineers. Previous to this visit we had conversed, and preliminarily agreed to focus our excavations along the southern shore of the island due to the apparent greater severity of erosion there. In addition, you had expressed concern over the possibility of our cutting live trees or their root systems to attempt to prolong their life and retain their stabilizing benefits to the island; to which I strongly agreed. Finally, you had proposed laying a fencing around the perimeter of the island prior to and during our dig in order to add some protection by keeping soils that we would expose through excavation from washing away.

During our visit last Wednesday, we again witnessed the erosion, and not unexpectedly, found that it continues at a rapid rate, even with the low water we've had this spring. However, contrary to the impression that erosion is most severe along the south shore, we found a 2 meter high vertical bank exposure along the north shore of the island. The north bank, although somewhat protected from wave action by a 1986 fallen tree in the water, seems to us to pose a more threatening situation than the south shore. The southern shore is a tapered to stepped slope from the top of the island to the water, and as such would appear to be presently amenable to laying stabilizing materials such as sand bags. The vertical north face would require far greater amounts of stabilizing materials to taper the surface.

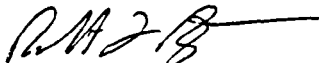
In addition, along the north shore, one of the few remaining trees (a red oak 12" dbh) is imminently threatened with toppling, because nearly half of its root system is exposed in the vertical bank. In its current state, a strong south wind would probably down the tree, and expose a new area to accelerated erosion.

In addition, we found additional human bone fragments in the water along the north shore, and traces of bone on a small area of recent slumped soil adjacent to the exposed tree roots. The slumped bone strongly suggests the probability of a partially undisturbed burial situated near the root system. As such, the natural toppling of the tree would likely impact the burial.

Consequently, we propose that our excavations be focused along the east end of the island, beginning along the eroding vertical face of the north shore, and working southward until a point is reached where a tapered north slope is created. This will necessitate removal of the tree (hopefully before it falls on its own), and permit salvage of the probable burial above the slumped bones. The end result would be tapered slopes on both the north, east, and south shores, which would allow laying of at least temporary stabilizing materials (such as sand bags).

In sum, we feel that fencing along the island perimeter prior to our excavation would be very useful for the reasons you mentioned. In addition, it seems best to remove by cutting, the perilously situated red oak along the north shore, before it falls on its own, and accentuates the erosion problem. Cutting the tree would also allow controlled felling to place it in a protective position relative to wave action. Our subsequent excavations would examine an area about 3 x 6 meters, with excess (non-cultural) soils used to taper the north shoreline. We do advocate followup protection such as temporary sand bagging, and are reasonably sure that volunteers could be raised to undertake this task. Without undertaking these steps, it is likely that we will be facing the same situation for the next several years until the island is completely gone. We would appreciate your comments on these ideas, and would be pleased to visit the site with you to verify the conditions. I am also working with the Wisconsin Burial Sites Preservation Board, to determine the appropriate actions if indeed a burial is encountered during our dig. Finally, we did observe duck egg shells on the island, and at least one active nest.

Sincerely,

 (Ernie)

Robert F. Boszhardt

cc. John Dobrovolny
David Berwick
Robert Birmingham
Jim Theler
Rodney Riggs

June 15, 1987

Rod Riggs
Burial Sites Preservation Program
State Historical Society of Wisconsin
816 State Street
Madison, WI 53706

Dear Rod:

This letter regards clarification of our recent phone conversation dealing with the probability of human burials at the Mc Ilvaine site (47Le150) in Lake Onalaska of the Upper Mississippi River (navigation pool 7). The site, along with several others on islands in the lake, was first located by amateur archaeologists after the construction of Lock and Dam 7 in the mid 1970's. Apparently, erosion of the Lake Onalaska islands began in earnest at that time, and collectors have visited them for many years. We reported the sites to the state in about 1983, and began documenting erosion on them since that time.

In 1985, the St. Paul District Corps and the U.S. Fish and Wildlife Service combined to sponsor a geoarchaeological testing project at some of the island sites including Mc Ilvaine. That project was undertaken by the Great Lakes Archaeological Research Center, which concluded that the sites were probably deflated. Soon after the G.L.A.R.C. report was submitted, a local collector brought in a human mandible from the Mc Ilvaine site, and we again visited the site. During later visits, and contacts with collectors we obtained numerous fragments of bone, including a nearly reconstructable uranium, and Bob Sasso did a breil analysis, determining an MBI of 3 (the presence of shovel shaped incisors on previously recovered fragments, indicates Native American affiliation).

In addition, the U.S. Fish and Wildlife Service sponsored another inspection of the island, undertaken by our Center last summer in which we identified 7 in-situ pits in 14 meters of profile inspection (so much for the deflation hypothesis). Subsequently, the Corps of Engineers is sponsoring a followup study to salvage imminently threatened areas of the shoreline, (i.e., the areas where the human bone is eroding from). In fact, last week Jim and I went out and found more human bone, including fragments on a slump bank, suggesting that a burial is situated in an area we will be excavating in the second week in July.

To summarize, we are under contract with the Corps of Engineers to undertake basically a partial salvage excavation on a Fish and Wildlife owned island called the Mc Ilvaine site. We plan on conducting the excavation from July 6-10, and based on quantities of human bone found along the severely eroding shoreline, there is in my estimation, a high probability that we will encounter one or more burials.

Based on the threatening erosional situation, and the fact that the sites is on Federal land, I request a letter indicating the appropriate course of action if a burial is actually encountered. The Fish and Wildlife personnel have expressed the opinion that they would like to abide with the spirit of the state burial law, even if it does not apply to federal property.

Sincerely,

Robert F. Boszhardt
Staff Archaeologist

RFB/ab



THE STATE HISTORICAL SOCIETY OF WISCONSIN

H. Nicholas Muller III, Director

816 State Street
Madison, Wisconsin 53706
608 262-3266

BURIAL SITES PRESERVATION PROGRAM
608/262-4015

June 23, 1987

Mr. Robert F. Boszhardt
Mississippi Valley Archaeology Center, Inc.
1725 State Street
La Crosse, Wisconsin 54601

Dear Ernie:

Thanks for your letter of 6/15/87 regarding probable burials at the McIlvaine site (47Lc160). As an uncataloged burial site, the owner (in this case, the U.S. Govt.) can authorize qualified archaeologists, such as yourselves, to excavate and analyze human burials from this site. As the probable burials appear to be in imminent danger of eroding away, excavation seems to be the best course of action. You should though check federal guidelines to make sure you're also in compliance with them.

Do you have the time and personnel to analyze any human remains excavated, as required by the law? Depending on the workload here, and of course, how many burials you excavate, I may be able to assist in the analysis. Ultimate disposition of any remains or artifacts cannot be decided until the board develops some guidelines. If you have any questions please call. And here's good news for you--we may be getting a toll free number soon!

Sincerely,

Diane Young Holliday
Diane Young Holliday

DYH:da
0080d

P.S.: Rod passed on your letter to me because next week he goes into temporary retirement to finish up his dissertation!



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Marilyn Van Wyk, CESA No. 4
La Crosse, WI

John Wabaunsee, Director
La Crosse Legal Services, Inc.

A. Vincent Weber, Dean
University of Wisconsin-La Crosse

July 30, 1987

John Dobrovolny
Regional Historian
U.S. Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, MN 55111

Dear John:

This letter constitutes a preliminary report on our recent excavations at the McIlvaine site (47Lc160) in Lake Onalaska (navigation pool 7) of the upper Mississippi River Wildlife Refuge. As per our contractual agreement with the St. Paul District Corps of Engineers, and permit agreement with the local Refuge Manager (Dick Steinback), we focused our efforts on the eastern end of the island, where erosion is most severe. Unfortunately, prior to the start of our field work, a red oak tree had fallen from the northeast bank exposing a new 2 meter area. This is the tree we had hoped could be cut prior to our dig to prevent root pull, and adjacent to which we had observed bone in the slump two weeks earlier.

Our excavation encompassed an area approximately 6 meters (E-W) x 2 meters (N-S). This area approximated the area we had conducted test and salvage excavations last summer under our contract with the Fish and Wildlife Service, although intervening erosion had completely obliterated the 1986 profiles and the remnant features we had observed last summer.

The excavations began by clearing the northeast profile and the bench behind the recently fallen red oak. In the bench we located and excavated the remaining portion of one pit feature. In the profile we observed 2 additional features. Subsequently, we excavated the undisturbed portion of the island to the south of the profile. This excavation removed the natural A-Horizon and located additional four pit feature stains intruding into the lighter sub-soil sands. Thus, in our approximately 6 x 2 meter area investigated we located seven pit features.

Excavation of the natural A-Horizon to the south of the profile revealed prehistoric artifacts with apparent relative stratigraphic contextual positioning. In otherwords Historic materials overlay Oneota and Late Woodland artifacts which in turn were found generally above Middle and Early Woodland materials. This suggests that the natural A-Horizon (ca. 80 cm thick) formed from approximately 250 BC - modern times.

Unfortunately, the origins of the various pit features were not distinguishable within the natural A-Horizon. At the base of the A-Horizon, the pits were defineable, and excavated separately. In general the pits produced rather unspectacular artifacts (e.g. a few flakes and small sherds were all that were found in most). The meagre contents of the pit may reflect rather lengthy age during which all organics including bone have decomposed. As such, these particular pits offer little potential for understanding prehistoric subsistence practices. Conversely, the lack of bone in these pits may offer indirect insight into the age of the human bone recovered from eroded contexts. If the pits with no bone reflect Early and Middle Woodland activities (and their contents do not contradict this age interpretation), the eroded burials, represented by well preserved bone, likely are of much more recent (probably Oneota) affiliation. No in-situ burials were located in our excavations, however, additional human bone fragments were found along the island edges.

In sum, our excavations managed to salvage severely threatened in-situ cultural deposits at the east end of the McIlvaine Island Site. The nature of the cultural remains recovered do not contain organic materials, probably due to age and decomposition. Although no burials were located during our excavations, based on the quantity of bones, the minimum number of individuals represented and the distribution of the bone found in eroded contexts it is quite possible that the small remaining portion of the island does contain additional burials, in undisturbed contexts. Fortunately, the remaining portion of the island is not as threatened with erosion, as the area we investigated. Hopefully, the fencing placed around the island will in slowing erosion, allowing time to develop long term management plans for this site.

We are now processing and cataloguing the artifactual remains. We will continue this and undertake analysis in early fall and submit our report by early November.

Sincerely,

Robert F. Boszhardt
Regional Archaeologist

cc: Dave Berwick
Dick Steinback
Robert Birmingham

UNITED STATES GOVERNMENT

memorandum

DATE:

6/19/87

REPLY TO
ATTN OF:

SUBJECT:

TO:

Ernie

Thank you for the letter relating to your field trip last week. We did get out there on Thursday and installed several sections of snow fence just off shore. I agree with your ~~opinion~~ opinion about the tree that's being indicated. Give me a call before you start so we can sign on our VCC worker helping you.



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-78)
GSA FPMR (41 CFR) 101-11.6
5010-111

APPENDIX F:
PERSONNEL VITAE

CURRICULUM VITAE

GENERAL INFORMATION

Name: James Patrick Gallagher

Place and Date of Birth: La Crosse, Wisconsin: July 18, 1942

Present Position and Academic Rank: Professor, University of Wisconsin-La Crosse; Executive Director, Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse.

EDUCATION

B.S. Anthropology, Saint Louis University, 1964

M.A. Anthropology, Southern Methodist University, 1969

Ph.D. Southern Methodist University, 1977

Dissertation Title: Ethnoarchaeological and Prehistoric Investigations in the Ethiopian Central Rift Valley.

PROFESSIONAL EXPERIENCE: TEACHING

University of Oklahoma, teaching assistant, 1966-1967

Trinidad Jr. College, Trinidad, Colorado, director of archaeology field school, 1968

Southern Methodist University, teaching assistant, 1969

Southern Methodist University, Instructor, University College, 1970, 1972

El Centro College, Dallas, Texas, Instructor, 1972-1977

University of Wisconsin-La Crosse, 1977-Present

RESEARCH

Archaeologist, Illinois State Museum (J. Caldwell), summer 1963

Archaeologist, Wisconsin State Museum excavations at Aztalan (J. Freeman), summer 1964

Research Assistant, University of Oklahoma Spiro Mound Project (J. Brown), 1964-1966

Archaeologist, University of Oklahoma (R. Bell), summer 1965

Ethnographer, one semester ethnographic project in Kiowa Apache material culture (A. Ricciardelli), 1964, University of Oklahoma

Archaeologist, excavations at Roc de Combe, France (F. Bordes), 1966

Research Assistant, Southern Methodist University Nubian Prehistoric Project (J. Shiner), 1967-1968

Field Director, archaeology field school, Trinidad Jr. College, Trinidad, Colorado, 1968

Archaeologist, excavations at Peché de l'Aze, France (F. Bordes), 1969

Archaeologist, excavations at Ksar A'Quil, Lebanon (J. Tixier), 1969

Field Director, Southern Methodist University Ethiopian Prehistoric Expedition (F. Wendorf), 1971-1972

Principal Investigator, Ethiopian Ethnoarchaeology Project, 1971-1972

Field Director, Egyptian Predynastic Project (F. Hassan), 1978

Principal Investigator, archaeological investigations at the Valley View Site, 1978-1979

Principal Investigator, La Crosse Area Archaeological Survey, 1979-1983

Principal Investigator, Overhead Site excavation, 1980 and 1985

Principal Investigator, Quail Cave excavation, 1981

Principal Investigator, excavations at the Dahl Site, 1982-1983

Principal Investigator, Pammel Creek Archeological Project, 1983 and 1985

Principal Investigator, The Sand Lake Ridged Field Project, 1982-1988

Principal Investigator, Root River Minnesota Archaeological Survey, 1984

Principal Investigator, Excavations at the Midway Village Site, 1984, 1985, 1986, 1988

Principal Investigator, Public Archaeology Programs in Historical Archaeology, 1987

MAJOR GRANTS RECEIVED

"Prehistoric Ridged Field Agriculture in the Upper Mississippi Valley"
National Science Foundation, 1984-85, \$69,550.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Wisconsin Archaeological Survey
Wisconsin Archaeological Society
Society for American Archaeology
Association of Iowa Archaeologists
Minnesota Archaeological Society
Iowa Archaeological Society
Director, Center for Research Archaeology, La Crosse, Wisconsin,
1977-1981.
Board of Advisors, Institute for Minnesota Archaeology, 1983-present.
Board of Governors, Wisconsin Archaeological Survey, 1984-1985.
Fellow, Institute for the Study of Earth and Man, Southern Methodist
University, Dallas, Texas.

PAPERS PRESENTED

- 1972 Gallagher, J. P., "Ethnoarchaeology in South Central Ethiopia",
paper presented at the VIIth Pan African Congress of Prehistory and
Quaternary Studies, Addis Ababa.
- 1973 Gallagher, J. P., "Ethiopian Ethnoarchaeology", paper presented at
the Conference of Africanist Archaeologists, April 16, 1973, Southern
Methodist University, Dallas, Texas.
- 1979 Gallagher, J. P., "Excavations at the Valley View Site, a Fortified
Oneota Village Near La Crosse, Wis.", paper presented at the 1979
meeting of the Society for American Archaeology, Vancouver, British
Columbia.
- 1979 Gallagher, J. P., "The Valley View Site, An Orr Focus Village Near
La Crosse", paper presented at the Midwest Archaeological Conference,
October 13, 1979, Milwaukee, Wisconsin.
- 1980 Gallagher, J. P. and Katherine Stevenson, "Oneota Subsistence
and Settlement in Southwestern Wisconsin", paper presented at
the Midwest Archaeological Conference, October 5, Chicago.
- 1980 Fekri Hassan, T. R. Hays, J. P. Gallagher, et al, "Towards a
Model of Agricultural Developments in Predynastic Egypt", paper
presented at the International Symposium on the Origin and Early
Development of Food Producing Cultures in North-Eastern Africa,
Pozan, Poland, November 15.
- 1980 Fekri Hassan, T. R. Hays, J. P. Gallagher, et al,
"Agricultural Developments in the Nagada, Egypt Region During the
Predynastic Period", paper presented at the annual meeting of
the American Research Center in Egypt, 13-15 April, San
Francisco.

- 1980 Gallagher, J. P. and Katherine Stevenson, "The Overhead Site -- a Multicomponent Site on the Mississippi River at La Crosse", paper presented at the Midwest Archaeological Conference, October 4, Chicago.
- 1980 Gallagher, J. P. "The Valley View Site", paper presented at the Symposium on Oneota Archaeology, University of Wisconsin-La Crosse, March 15.
- 1982 Gallagher, J. P., R. Boszhardt, and R. Sasso, "Recent Excavations of Oneota Ridged Fields in Western Wisconsin: The Sand Lake Site (47Lc44)", paper presented at the meeting of the Wisconsin Archaeological Survey, October 30, Stevens Point, Wisconsin.
- 1983 Gallagher, J. P. "A Tribute to William Willis, Pioneer Black Anthropologist", paper presented at the annual meeting of the American Anthropological Association, November 16-20, Chicago.
- 1983 Stevenson, K., R. Boszhardt, and J. P. Gallagher, "Oneota Ceramics in the La Crosse, Wisconsin Area: Variations Within and Between Assemblages", paper presented at the conference on Western Oneota Ceramics, April 16-17, Red Wing, Minnesota.
- 1983 Gallagher, J. P., R. Boszhardt, and K. Stevenson, "Oneota Ridged Field Agriculture in Southwestern Wisconsin", paper presented at the annual meeting of the Society for American Archaeology, April 26-30, Pittsburgh.
- 1984 Sasso, Robert F., James P. Gallagher, Robert F. Boszhardt, and Thomas Bailey. "Oneota Ridged Fields in Southwestern Wisconsin", paper presented at the Midwest Archaeological Conference, Evanston, Illinois, October 21-24.
- 1985 Sasso, Robert F., R. Boszhardt, and J. Gallagher. "Oneota Ridged Fields on the Northern Margin of the Prairie Peninsula: Orr Farming on the Edge of the Wedge", paper presented at the 1985 Plains Anthropological Conference, Iowa City, Iowa, October 23-26.
- 1986 Gallagher, J. P., and R. Sasso. "Further Investigations Into Oneota Ridged Field Agriculture in Southwestern Wisconsin", paper presented at the 51st Annual Meeting of the Society for American Archaeology, April 23-27, New Orleans.
- 1986 Gallagher, J. P. "Agricultural Intensification in Temperate Climates", paper presented at the World Archaeological Congress, Southampton and London, September 1-7.
- 1987 Gallagher, J. P. "Public Archaeology at the Regional Level: A Case Study", paper presented at "Perception and Presentation of the Past", Minneapolis, October 14-16.

- 1988 Gallagher, J. P. "Prehistoric Field Systems in the Upper Midwest", paper presented at the 46th International Congress of Americanists, Amsterdam, Holland, July 4-8.

PUBLICATIONS

- 1965 Gallagher, J. P., Michael Davis, and Fred Schneider, "Plains Indian German Silverwork in the Anadarko, Oklahoma Area". Papers in Anthropology, 6:22-40, University of Oklahoma, Norman.
- 1973 Gallagher, J. P., "Preliminary Report on Archaeological Research Near Lake Zuai, Ethiopia". Annales d'Ethiopie, 9:64-80, Ethiopian Archaeological Institute, Addis Ababa.
- 1974 Gallagher, J. P., "Preparation of Hides With Stone Tools in South Central Ethiopia". Journal of Ethiopian Studies, 13(1):177-182, Institute of Ethiopian Studies, Addis Ababa.
- 1977 Gallagher, J. P., "Ethiopian Research", Nyame Akuma, 11:11-14.
- 1977 Gallagher, J. P., "Contemporary Stone Tools in Ethiopia: Implications for Archaeology", Journal of Field Archeology, 4:407-414.
- 1980 Gallagher, J. P. and Katherine Stevenson, "Preliminary Report on Excavations at the Valley View Site (47Lc34), an Oneota Village Near La Crosse", Wisconsin Archeologist, 61(4):505-521.
- 1982 Gallagher, J. P., "The Mississippi Valley Archaeology Center", The Wisconsin Archeologist, 63(3):237-239.
- 1982 Gallagher, J. P., and Katherine Stevenson, "Oneota Subsistence and Settlement in Southwestern Wisconsin", Oneota Studies, ed. by G. Gibbon, Publications in Anthropology No. 1 pp. 15-27, University of Minnesota, Minneapolis.
- 1983 Test Excavations at the Leon Site (Lc4749). Reports of Investigations, No. 5, Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse.
- 1984 Boszhardt, R. F., J. P. Gallagher, T. W. Bailey, R. F. Sasso, and K. P. Stevenson. Archaeological Investigation at the Mouth of Sand Lake Coulee: the 1982 Season, Reports of Investigations, No. 8, Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse.
- 1985 Boszhardt, Robert F., J. Gallagher, R. Sasso, and K. Stevenson, Archaeological Salvage Excavations at Kipes Island (47Tr86), Trempealeau County, Wisconsin, Reports of Investigations, No. 30, Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse.

- 1985 Gallagher, J. P., R. Boszhardt, R. Sasso, and K. Stevenson, "Oneota Ridged Field Agriculture in Southwestern Wisconsin", American Antiquity 50(3):605-612.
- 1985 Boszhardt, R. F., T. Bailey, and J. P. Gallagher, "Oneota Ridged Field at the Sand Lake Site (47Lc44), La Crosse County, Wisconsin", The Wisconsin Archeologist, 66(1):47-68.
- 1985 Sasso, R. F., R. F. Boszhardt, J. C. Knox, J. L. Theler, K. P. Stevenson, J. P. Gallagher, and C. Stiles-Hanson, Prehistoric Ridged Field Agriculture in the Upper Mississippi Valley, Reports of Investigations, No. 38, Mississippi Valley Archaeology Center at the University of Wisconsin-La Crosse.
- 1987 Gallagher, J. P., R. Boszhardt, R. Sasso, K. Stevenson, "Floodplain Agriculture in the Driftless Area: A Reply to Overstreet", American Antiquity, 52(2):398-404.
- 1987 Gallagher, J. P., and Robert F. Sasso, "Investigations into Oneota Ridged Field Agriculture on the Northern Margin of the Prairie Peninsula", Plains Anthropologist, 32(116):141-151.
- 1988 Gallagher, J. P., "Processes of Agricultural Intensification in the Temperate Upper Midwest of North America", in Foraging and Farming: The Evolution of Plant Exploitation, ed. by D. Harris and G. Hillman, Allen and Unwin, London, in press.
- 1988 Gallagher, J. P., "Public Archaeology at the Regional Level", in Presentation of the Past, ed. by Peter Wells, Center for Ancient Studies, University of Minnesota, in press.
- n.d. Gallagher, J. P., "Prehistoric Field Systems in the Upper Midwest", in Evidence for Late Prehistoric Midwestern Agriculture, ed. by William Woods, British Archaeological Record, Oxford, in press.

VITAE

ROBERT F. BOSZHARDT

DATE OF BIRTH: November 30, 1954

AREA OF INTEREST: Prehistoric Adaptations and Cultural Change in the Upper Mississippi River Valley and Western Upper Great Lakes.

ACADEMIC HISTORY: University of Wisconsin-Waukesha Center, 1972-1974.
University of Wisconsin-Milwaukee, Bachelor of Arts,
Anthropology, 1977
University of Wisconsin-Madison, Master of Arts,
Anthropology, 1982

CURRENT POSITION: Staff/Regional Archaeologist Mississippi Valley Archaeology Center (since 1982)

MEMBERSHIP IN PROFESSIONAL SOCIETIES AND ORGANIZATIONS

Wisconsin Archaeological Survey
Wisconsin Archaeological Society (Advisory Council)
The Iowa Archaeological Society
Minnesota Archaeological Society
La Crosse Area Archaeological Society
La Crosse County Historical Society
Burnett County Historical Society
Buffalo County Historical Society
La Crosse County Historic Sites Commission
Preservation Alliance of La Crosse (board member)

PAPERS PRESENTED

- 1981 The Prairie Phase, an "Early Woodland" Manifestation in the Upper Mississippi River Valley. Midwest Archaeological Conference, Madison, Wisconsin. Junior participant with Dr. James Stoltzman and James L. Theler. Paper delivered by Dr. James Stoltzman.
- 1981 Preliminary Report on an Archaeological Survey of Pool 12, Upper Mississippi River. Midwest Archaeological Conference, Madison, Wisconsin.
- 1981 Report and Discussion of Archaeological/Geomorphological Interpretations of Pool 12 in the Upper Mississippi River Valley. Wisconsin Archaeological Society, November meeting, Waukesha, Wisconsin.
- 1982 The La Crosse Area Archaeological Society's Excavations at the Dahl Site. La Crosse Area Archaeological Society, September meeting, La Crosse, Wisconsin.

- 1983 Archaeology and Benthology: Do These Fields Share Common Interests? 31st Annual Meeting of the North American Benthological Society, April 27, La Crosse, Wisconsin.
- 1983 A Comparison of the Floodplain Archaeology of Navigation Pools 7 and 8 at La Crosse with pools 10, 12, and 16 of the Upper Mississippi River. Midwest Archaeological Conference, Iowa City, Iowa.
- 1983 Oneota Ceramics in the La Crosse, Wisconsin area: Variation within and between assemblages. Paper presented at the conference on Western Oneota Ceramics, Red Wing, Minnesota (April 16-17). Junior author with Katherine Stevenson and James P. Gallagher. Paper delivered by K. Stevenson.
- 1983 Oneota Ridged Field Agriculture in Southwestern Wisconsin. Paper presented at the annual conference at The Society for American Archaeology, Pittsburgh, Pennsylvania (April 27-30). Junior author with James P. Gallagher, Robert Sasso, and Katherine Stevenson. Paper delivered by J. Gallagher.
- 1984 Oneota Ridged Fields in southwestern Wisconsin (1982-1984). Paper presented at the Annual Midwest Archaeology conference at Northwestern University (October 19-21). Junior author with Robert F. Sasso, James P. Gallagher, and Thomas Bailey. Paper delivered by R. Sasso.
- 1985 The 1985 Field Season of the Mississippi Valley Archaeology Center: Excavations at the Midway Village site and the Hoeschler Mound. La Crosse Area Archaeological Society, September meeting, La Crosse, Wisconsin.
- 1985 Archaeological Sites in the La Crosse Area. 1985 Midwest Environmental Educators Conference, Sept. 16-19, La Crosse, Wisconsin.
- 1985 Oneota Ridged Fields on the Northern Margin of the Prairie Peninsula: Orr Farming on the Edge of the Wedge. Paper presented at the 1985 Plains Anthropological Conference, Iowa City, Iowa, Oct 23-26. Junior author with Robert F. Sasso and James P. Gallagher. Paper delivered by R. Sasso.
- 1986 The 1986 Field Season of the Mississippi Valley Archaeology Center (Sand Lake Site). La Crosse Area Archaeological Society, September meeting, La Crosse.
- 1987 The History of Archaeology in La Crosse. Preservation Alliance of La Crosse, February meeting, La Crosse.
- 1987 Midway Village Revisited: It's More and Less Than What It Used To Be. In Pattern, Phase, and Focus: A Symposium Honoring Will C. McKern. Midwest Archaeological Conference, Milwaukee (October 16-19).

- 1987 Historic Archaeology in Western Wisconsin. In Historic Archaeology 19th Century Sites. Midwest Archaeological Conference, Milwaukee (joint presentation with Cynthia Stiles-Hanson).
- 1987 MVAC's 1987 Public Field School at the Spence Park Site. September Meeting of the La Crosse Area Archaeological Society.

PUBLICATIONS

- 1977 Radiocarbon Dates for Wisconsin, 1976, A Second Compilation. The Wisconsin Archeologist, 58(2):84-150.
- 1982 Wisconsin Radiocarbon Update: 1981, The Wisconsin Archeologist, Vol. 63 (2).
- 1983 Ridged Fields at the Sand Lake Site Near La Crosse, Wisconsin. Minnesota Archaeological Newsletter, No. 30.
- 1983 Prehistory of the Upper Mississippi. In The River Revival. Mississippi River Revival, Inc., Minneapolis, Minnesota.
- 1983 Preliminary Investigations: Archaeology and Sediment Geomorphology, Navigation Pool 12, Upper Mississippi River. The Wisconsin Archeologist, 64 (2). Senior author with David F. Overstreet.
- 1985 Oneota Ridged Fields at the Sand Lake Site (47Lc44) La Crosse County, Wisconsin. Senior author with Thomas W. Bailey and James P. Gallagher. The Wisconsin Archeologist, 66 (1): 47-67.
- 1985 Oneota Ridged Field Agriculture in Southwestern Wisconsin. American Antiquity, 50(3):605-612. Junior author with James P. Gallagher, Katherine Stevenson, and Robert F. Sasso.
- 1985 Ethnohistory and Archaeological Site Location: Pinpointing a Historic Menominee Village. Journal of Anthropology 4(1):1-40. Fay-Cooper Cole Anthropological Association, Northern Illinois University.
- 1985 The 1985 Field Season of the Mississippi Valley Archaeology Center. In Past, Present, and Future 7(3):8-10. La Crosse County Historical Society.
- 1986 Upper Mississippi River Floodplain Archaeology: A Comparison of the La Crosse-Trempealeau Region to Prairie du Chien and Northwestern Illinois. The Wisconsin Archeologist 67(1):1-19.
- 1986 The Early Woodland Stage in Wisconsin. In Introduction to Wisconsin Prehistory. A Guide to Cultural Resources Management (edited by William Green, Thomas Kehoe, and James Stoltman). The Wisconsin Archeologist 67(3-4):243-262.
- 1987 A Woodland Occupation on Goose Island. Archaeology News, The La Crosse Area Archaeological Society and Mississippi Valley Archaeology Center, Vol. 6, No. 3.

- 1987 Indian Cemeteries at La Crosse, Archaeology News, The La Crosse Area Archaeological Society and Mississippi Valley Archaeology Center, Vol. 7, No. 1. Reprinted in Historical Notes, La Crosse County Historical Society, Vol X, No. 11.
- 1987 Historic Archaeology in La Crosse: The 1987 Field Schools of the Mississippi Valley Archaeology Center. Past, Present, and Future (November-December), the La Crosse County Historical Society.

TECHNICAL REPORTS

- 1981 Archaeological Investigations on Private Lands in the Lowland Floodplain near Prairie du Chien, Wisconsin. State Historical Society of Wisconsin. Section of Comprehensive Report on Archaeological Investigations of the Prairie du Chien locality, Crawford County, Wisconsin, prepared by Dr. James B. Stoltman, with James L. Theler, Constance Arzigian and Jeff Behm.
- 1981 Preliminary Investigations: Archaeological and Sediment Geomorphology, Navigation Pool 12, Upper Mississippi River. Great Lakes Archaeological Research Center, Reports of Investigations No. 115 (3 volumes). Senior author with Dr. David Overstreet.
- 1982 Archaeological Investigations in the Lowland Floodplain of Navigation Pool 10 near Prairie du Chien, Crawford County, Wisconsin. Master's Thesis, University of Wisconsin-Madison, Department of Anthropology.
- 1982 Archaeological Testing and Evaluation of 11Jd126. Addendum to Preliminary Investigations: Archaeology and Sediment Geomorphology, Navigation Pool 12, Upper Mississippi River. Great Lakes Archaeological Research Center Reports of Investigations Number 115. Senior author with David F. Overstreet.
- 1982 Archaeological Investigations at The Dahl Site (47Lc148), Mississippi Valley Archaeology Center, Inc. Reports of Investigations No. 1. Senior author with Dr. James P. Gallagher.
- 1983 Cultural Resources Reconnaissance Inventory of Portions of the Eau Galle Recreation Area, St. Croix County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations Number 3.
- 1983 Report on Preliminary Cultural Resources Investigations At Thief Island In Navigation Pool 9 Of the Upper Mississippi River. Mississippi Valley Archaeology Center, Report of Investigations Number 4.
- 1983 Test Excavations at the Leon Site (47Lc49). Mississippi Valley Archaeology Center, Reports of Investigations Number 5.
- 1983 Cultural Resources Inventory of Planned Site of Cochrane State Branch Bank at Bluff Siding, Buffalo County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 13.

- 1983 Cultural Resources Investigations of Two Sections of a Proposed Gas Main in La Crosse County, Wisconsin. Mississippi Valley Archaeology Center Report of Investigations Number 14.
- 1983 Phase II Cultural Resources Inventory and Evaluation at 47Bf131 in Bluff Siding, Buffalo County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 16.
- 1983 Phase II Cultural Resources Inventory and Evaluation of a Proposed Realignment of a Segment of CTH "SN" in La Crosse County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 15.
- 1984 Archaeological Investigations at the Mouth of Sand Lake Coulee: The 1982 season. Mississippi Valley Archaeology Center reports of Investigations Number 8. Senior author with James P. Gallagher, Thomas Bailey, Robert F. Sasso, and Katherine Stevenson.
- 1984 Cultural Resources Investigations: Survey of portions of the State Road and Ebner Coulee Project, La Crosse County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 11.
- 1984 A Cultural Resources Evaluation of the Pammel Creek Site (47Lc61): An Oneota Occupation at La Crosse, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 19. Senior author with James L. Theler and James P. Gallagher.
- 1984 Phase II Cultural Resources Investigations along C.T.H. Z on Brice Prairie, La Crosse County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 22. Senior author with Robert F. Sasso, and James P. Gallagher.
- 1985 Additional Cultural Resources Investigations at selected portions of the State-Road Coulee-Pammel Creek Flood Control Project at La Crosse, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 27. Senior author with James P. Gallagher, James L. Theler, Thomas W. Bailey, Arther Bettis and Dean Thompson.
- 1985 Archaeological Salvage Excavations at Kipes Island (47Tr86), Trempealeau County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 30. Senior author with James P. Gallagher, Robert F. Sasso, and Katherine Stevenson.
- 1985 Final Cultural Resources Investigations Along CTH 'SN' in La Crosse County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 33.
- 1985 Phase II Cultural Resources Investigations at the Dodge Site (47Tr122), Trempealeau County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 34.

- 1985 Archaeological Survey of Proposed Reservoir and Well Stations at Bagely in Grant County, Wisconsin. Mississippi Valley Archaeology Center Reports of Investigations Number 35.
- 1985 Prehistoric Ridged Field Agriculture in the Upper Mississippi Valley. Mississippi Valley Archaeology Center, Reports of Investigations, No. 38, Report Prepared for the National Science Foundation under grant number BNS-8406803. (Joint author with Robert Sasso, James Knox, James Theler, Katherine Stevenson, James Gallagher and Cynthia Stiles-Hanson).
- 1986 Phase II Cultural Resources Investigations at Selected Sites at the Eau Galle Recreation Area in St. Croix County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigation, No. 40.
- 1986 Phase I Archaeological Survey at Arcadia, Trempealeau County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 44 (Junior author with James P. Gallagher).
- 1986 Archaeological Survey of Portions of Lane on the East Side of the Petenwell Flowage, Adams County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 50. (Senior author with James P. Gallagher).
- 1986 The 1985-86 Region 6 Archaeology Program in Western Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 50 (Senior author with Cynthia Stiles-Hanson).
- 1987 Mapping Mounds in the Cranberry Creek Archaeological District-Year 1: An Example of Cooperative Archaeology in Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 58.
- 1987 Cultural Resources Reconnaissance Survey for a Proposed Buried Power Cable at Clifton, Monroe County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 60.
- 1987 Phase I Archaeological Survey of a Portion of Lots 6 and 7 of the Sandy Springs Subdivision, Saratoga Twp., Wood County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 61.
- 1987 A Reconnaissance Survey at the Jim Braun Site (47Lc59) For the Proposed Dairyland Power Administration Building. In the City of La Crosse, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 63.
- 1987 Phase II Archaeological Testing at the Dellwood II Site, Castle Rock Flowage, Adams County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 65

- 1987 The 1986-87 Region 6 Archaeology Program in Western Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations No. 66. (Junior author with Cindy Stiles-Hanson).
- 1987 Phase I Archaeological Survey of a Proposed Boat Ramp Improvement at East Arbutus Campground, Jackson County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 68.
- 1987 A Reconnaissance Survey of Proposed Underground Telephone Cables at Ten Archaeological Sites in Vilas and Iron Counties, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 69.
- 1987 Phase II Archaeological Testing at the Kilmas Bay Hill Site. Proposed Boat Ramp Improvements at East Arbutus Campground, Jackson County, Wisconsin. Mississippi Valley Archaeology Center, Reports of Investigations, No. 70.

ARCHAEOLOGICAL FIELD/LABORATORY EXPERIENCE

- 1973 Crew member, Archaeological Field School, Hixton Quarry Site, University of Wisconsin-Waukesha. Dr. David F. Overstreet, Director.
- 1974 Crew member, Byron Power Plant Project, First and Second Phase Testing, University of Wisconsin-Milwaukee. Robert Birmingham, Director.
- 1975 Crew member, Apostle Island Survey, Beloit College. Dr. David F. Overstreet, Director.
- 1975 Crew member, Marina Site Excavation, Madeline Island, Wisconsin, Beloit College. Robert Birmingham, Director.
- 1975-1976 Lithic Analysis, Apostle Island Survey, Beloit College. Dr. David F. Overstreet, Director.
- 1976 Crew member, Jones Bluff Survey (Alabama River), Office of Archaeological Research, University of Alabama. C. Oakly and M. Watson, Director.
- 1976 Crew member, Subassistant, Phipps Bend Excavations (Tennessee), Office of Archaeological Research, University of Alabama. Robert Lafferty, Director.
- 1976 Crew member, Rock River Survey (Rock Island County, Illinois), University of Wisconsin-Milwaukee. Robert Birmingham, Director.
- 1977 Crew member, Historic Site Survey, Fox River Watershed, Waukesha County, Wisconsin. Dr. David F. Overstreet, Director.
- 1977-1979 Research Assistant, the Great Lakes Archaeological Research Center, Waukesha, Wisconsin. Responsibilities included: Crew member of

various surveys and excavations throughout Wisconsin, Illinois, and upper Michigan, Draftmanship of maps for project reports, Laboratory processing and analysis of recovered artifacts, Field director of Phase I consulting surveys at a Wastewater Treatment Plant at Monroe; Wisconsin, Power Line survey at Prairie du Chien, Wisconsin; and Green Bay Coastal Corridor in Door, Brown, and Oconto Counties, Wisconsin.

- 1980 Research Assistant, University of Wisconsin-Madison Laboratory of Archaeology. Responsibilities included: Crew member of various surveys and excavations including field supervisor of UW-Madison field school at Prairie du Chien and Pool 10 of the Upper Mississippi River. Artifact analysis and technical report production.
- 1981-1982 Research Assistant, the Great Lakes Archaeological Research Center, Responsibilities included: Crew member of various surveys and excavations including field supervisor of Phase I survey of Navigation Pool 12 of the Upper Mississippi River, and Phase II testing at 11Jd126. Artifact analysis and technical report production.
- 1982-1985 Staff Archaeologist, the Mississippi Valley Archaeology Center. Responsibilities include Field and Laboratory director of various contract and research projects in western Wisconsin. These include University, Adult, and High School field students. Additional responsibilities include writing research, contract, and general funding grant proposals, technological reports, and publications; and public and scientific presentations.
- 1986-now Regional Archaeologist, the Mississippi Valley Archaeology Center. Responsibilities include coordinating Historic Preservation activities for a 7 county region of western Wisconsin as a sub-agent of the State Historical Society of Wisconsin. Specifically, the Region 6 Archaeology Program reports sites through survey and collector/informant contact, researches and prepares nominations to the National Register of Historic Places, researches and prepares study unit reports on specified topics, and conducts public education activities ranging from public field and laboratory experiences to presentations at civic groups and schools.

CURRICULUM VITA

James L. Theler

PERSONAL INFORMATION:

Born July 13, 1946, Cincinnati, Ohio
Graduated High School, 1965
U.S. Air Force 1966-1970
Married, Two Children

Home: 2007 Mississippi Street
La Crosse, WI 54601
Telephone (608) 782-2356

University: Department of Sociology and Anthropology
and Mississippi Valley Archaeology Center
North Hall
University of Wisconsin-La Crosse
La Crosse, WI 54601
Telephone (608) 785-8463

RESEARCH INTERESTS:

Archaeology of eastern North America (especially Upper Midwest
and Ohio Valley)
Prehistoric subsistence and settlement patterns; faunal analysis
Paleoclimatic and paleoenvironmental reconstruction
Archaeological survey techniques and excavation methods

EDUCATION:

1971-1975 University of Cincinnati
B.A. Anthropology (cum laude), 1975

1975-1983 University of Wisconsin-Madison
M.A. Anthropology, 1978. Thesis title: The vertebrate
faunal remains from Sand Ridge (33Ha17): A stratified
habitation site in southwestern Ohio.

University of Wisconsin-Madison
Ph.D. Anthropology, 1983. Dissertation title: Woodland
Tradition Economic Strategies: Animal Resource
Utilization in Southwestern Wisconsin and Northeastern Iowa.

Minor: Environmental Studies--distributed minor

FIELD EXPERIENCE:

- 1988 Directed 9 weeks of excavations at the Late prehistoric Midway Site, La Crosse County, Wisconsin. This project combined university students, public and Earthwatch field schools in archaeology.
- 1987 Directed mitigation excavation (with R. Boszhardt) at the North Shore site, La Crosse County, Wisconsin. North Shore contained an Oneota habitation area and a Hopewell mortuary feature.
- 1987 Directed an adult field school at the Historic (1870-1890) Hixon Forest Cellar site, La Crosse County, Wisconsin.
- 1986 Directed eight weeks of excavations at the late prehistoric (Oneota) Krause site, La Crosse County, Wisconsin. This project combined a University field school, Earthwatch and an adult field school.
- 1986 Co-directed adult field school (with R. Boszhardt) at the Viola Rockshelter, a multicomponent site in Vernon County, Wisconsin.
- 1984 Project Director and Co-Principal Investigator for the Iowa Department of Transportation, Highway Archaeology Program.
- 1983 Directed Phase II excavations at 16 prehistoric archaeological sites in east central Iowa for Office of the State Archaeologist, University of Iowa.
- 1980 Teaching assistant, University of Wisconsin-Madison Summer Field School. Co-directed excavation at Mill Pond site, an Early Woodland site in Crawford County, Wisconsin.
- 1979-1980 Archaeological site survey, Crawford County, Wisconsin; University of Wisconsin-Madison. Survey covered a transect from the Mississippi River floodplain to the uplands. Principal investigator upland survey; field director, bottomland survey.
- 1978 Teaching assistant, University of Wisconsin-Madison Summer Field School. Survey and testing, Crawford County, Wisconsin.
- 1977 Co-director, excavations at Sand Ridge site, Hamilton County, Ohio (Fort Ancient component). Cincinnati Museum of Natural History and University of Cincinnati.
- 1976 Teaching assistant, University of Wisconsin-Madison Summer Field School. Systematic surface collection and block excavation of the Bass site, an Early Archaic quarry site in Grant County, Wisconsin.

- 1975 Co-director, excavations at the Sand Ridge site, Hamilton County, Ohio. Cincinnati Museum of Natural History and University of Cincinnati.
- 1974 Teaching assistant, University of Cincinnati Summer Field School. Excavations at Bullskin Creek site, a Late Archaic site in Clermont County, Ohio.
- 1973 Teaching assistant, University of Cincinnati Summer Field School. Excavations at Logan site, a Late Archaic site in Clermont County, Ohio.
- 1972 Teaching assistant, University of Cincinnati Summer Field School. Excavations at Maple Creek site, a Late Archaic site in Clermont County, Ohio.
- 1971 Student, University of Cincinnati Summer Field School. Excavation of Maple Creek site, Clermont County, Ohio.
- 1971 Conducted archaeological site survey, Clermont County, Ohio. University of Cincinnati.
- 1972-present Principal investigator, crew member. Various short-term contract survey, testing, and excavation projects in Ohio and Wisconsin.

ADDITIONAL RESEARCH EXPERIENCE:

- 1985-1989 Analysis of late prehistoric (Oneota) Bison scapula hoes in western Wisconsin, eastern Minnesota and northeastern Iowa.
- 1985-1988 Survey of upland "hill prairie" terrestrial snail populations of western Wisconsin.
- 1987 Analysis of freshwater mussel populations and exploitation at the Aztalan site, Jefferson County, Wisconsin.
- 1985 Analysis of the Quall Rockshelter faunal remains (with Paul Thorson), a multicomponent processing area and Middle Woodland mortuary site in La Crosse County, Wisconsin.
- 1982-1984 Consultant, Soil Conservation Service, U.S. Department of Agriculture. The utilization of molluscan fauna for environmental and climatic reconstruction of buried Holocene deposits in western Iowa. Dean M. Thompson, principal investigator.

1974-present Faunal analysis (consultant). Identification and analysis of vertebrate fauna, naiads, and gastropods from various sites in the Upper Midwest.

TEACHING EXPERIENCE:

1984-present Faculty member, Department of Sociology/Anthropology, University of Wisconsin-La Crosse. Courses taught:
Anthropology 100, The Prehistoric World
Anthropology 205, North American Prehistory
Anthropology 310, Midwestern Prehistory
Anthropology 343, North American Indians
Anthropology 402, Field School in Archaeology
Anthropology 409, Directed Study for Advanced Students

1981-1982 Teaching assistant, Department of Anthropology, University of Wisconsin-Madison. Anthropology 100, Introduction to Anthropology.

1980, 1978, Teaching assistant, University of Wisconsin-Madison Summer
1976 Archaeological Field School. See also Field Experience.

1974, 1973, Teaching assistant, University of Cincinnati Summer
1972 Archaeological Field School. See also Field Experience.

GRANTS, FELLOWSHIPS:

1985-1986 Faculty Research Grant, \$8,100 (with J.P. Gallagher)
proposal title: Prehistoric Human Subsistence Systems in
Southwestern Wisconsin.

1983 Post-doctoral fellowship from the Center for Climatic
Research, University of Wisconsin-Madison. Research objec-
tives involved use of subfossil gastropods from archaeolog-
ical sites as indicators of paleoclimates/environments.

1979 Grant from the Office of Archaeology and Historic
Preservation, U.S. Department of the Interior, HSI-771 for
archaeological survey in southwestern Wisconsin.

PUBLICATIONS:

- 1988 Faunal Remains. In: The Hanging Valley Site (13HR28): A Stratified Woodland Burial Locale in Western Iowa, by J.A. Tiffany, D.C. Anderson, S.J. Schermer, J.L. Theler, A.K. Fisher, D. Owsley, D.M. Thompson and E.A. Bettis, III. Accepted for publication in the Plains Anthropologist, Vol. 33:219-259.
- 1987 Woodland Tradition Economic Strategies: Animal Resource Utilization in Southwestern Wisconsin and Northeastern Iowa. Report 17, Office of the State Archaeologist, The University of Iowa, Iowa City, Iowa (monograph).
- 1987 Prehistoric Freshwater Mussel Assemblages of the Mississippi River in Southwestern Wisconsin. The Nautilus 101(3):143-150.
- 1987 The Prehistoric Freshwater Mussels (Naiades) from Brogley Rockshelter in Southwestern Wisconsin. American Malacological Bulletin 5(2):165-171.
- 1986 The Early Woodland Stage (with R. Boszhardt and T. Kehoe). In: Introduction to Wisconsin Archaeology: Background for Cultural Resource Planning, edited by W. Green, J.B. Stoltman and A.B. Kehoe, pp. 243-262. Special issue of The Wisconsin Archeologist 67(3-4).
- 1986 The Early Woodland component at Mill Pond site, Wisconsin. In: Early Woodland Archaeology, edited by K.B. Farnsworth and T.E. Emerson, pp. 137-158. Center for American Archaeology, Kampsville Seminars in Archaeology, Vol. 2.
- 1985 Faunal Debris. In: The Locust Site (33Mu160): The 1983 Test Excavation of a Multicomponent Workshop in East Central Ohio, by M.F. Seeman, pp. 77-85. Kent State Research Papers in Archaeology, No. 7.
- 1984 Additional Seasonality Data for the Millville site (47Gt53): Evidence from White-tailed Deer Mandibles Aged by Dental Eruption (with E. Elizabeth Pillaert). The Wisconsin Archeologist 64(3 and 4):305-312.
- 1982 Gastropod Analysis. Appendix D, Environmental Data, pp. 213-217. In Chan-ya-ta: A Mill Creek Village, by Joseph A. Tiffany. Report 15, Office of the State Archaeologist, University of Iowa.
- 1981 An Archaeological Survey of Mill Coulee and the Adjacent Uplands of Crawford County, Wisconsin, 1979. The Wisconsin Archeologist 62(2):168-205.

- 1980 Archaeological Recovery at 11Ri337, an Early Middle Woodland Shell Midden in East Moline, Illinois (with Allen P. Van Dyke and David F. Overstreet). The Wisconsin Archeologist 61(2):125-265.
- n.d. Faunal Remains From the Turpin Site (33Ha19), Hamilton County, Ohio (with Suzanne M. Harris). The West Virginia Archeologist. (in press)
- n.d. Habitat and Climatic Interpretation from Terrestrial Gastropods at Rodgers Shelter (with David A. Baerreis). Accepted for publication, Illinois State Museum Scientific Series.
- n.d. The Terrestrial Gastropods at Modoc Rock Shelter (11Ra501): Environmental and Climatic Implications (with David A. Baerreis). Accepted for publication, Illinois State Museum Reports of Investigations.

BOOK REVIEW

- 1987 Smiling Dan: Structure and Function at a Middle Woodland Settlement in the Lower Illinois Valley. The Wisconsin Archeologist 68(3):267-271.
- n.d. Formation processes of The Archaeological Record. The Plains Anthropologist. (in press)

UNPUBLISHED TECHNICAL REPORTS:

- 1985 Faunal Remains. In: Prehistoric Ridged Field Agriculture in the Upper Mississippi Valley, by R.F. Sasso, R.F. Boszhardt, J.C. Knox, J.L. Theler, K.P. Stevenson, J.P. Gallagher and C.S. Hanson, pp. 128-146. Mississippi Valley Archaeology Center, Reports of Investigations No. 38, University of Wisconsin, La Crosse.
- 1985 Faunal Remains. In: Final Cultural Resources Investigations Along CTH 'SN' in La Crosse County, Wisconsin, by R.F. Boszhardt, J.L. Theler, A. Bettis, D. Thompson and C.S. Hanson, pp. 99-120. Mississippi Valley Archaeology Center, Reports of Investigations No. 33, University of Wisconsin, La Crosse.

- 1984 Faunal Remains. In: Phase II Cultural Resources Investigations Along CTH 'Z' on Brice Prairie, La Crosse County, Wisconsin, by R.F. Boszhardt, R.F. Sasso, and J.P. Gallagher, pp. 83-89. Mississippi Valley Archaeology Center, Reports of Investigations No. 22, University of Wisconsin-La Crosse.
- 1984 Faunal Remains: In: A Cultural Resources Evaluation of the Pammel Creek Site (47LC61): An Oneota Occupation at La Crosse, Wisconsin by R.F. Boszhardt, J.L. Theler and J.P. Gallagher, pp. 57-76. Mississippi Valley Archaeology Center, Reports of Investigations No. 19, University of Wisconsin, La Crosse.
- 1984 Additional Cultural Resources Investigations at Selected Portions of the State Road Coulee-Pammel Creek Flood Control Project at La Crosse, Wisconsin (with Robert F. Boszhardt and others). Reports of Investigations 27, Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse.
- 1984 The Middle Woodland Study Unit in Region 6, Western Wisconsin (with Katherine Stevenson). Reports of Investigations 25, Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse.
- 1984 Gastropod Analysis of Sampled De Forest Formation Members in Plymouth and Mills County, Iowa. Report prepared for U.S.D.A. Soil Conservation Service, Des Moines, Iowa.
- 1984 Cultural Resources Evaluation of the Pammel Creek Site (47LC61), an Oneota Occupation at La Crosse, Wisconsin (with Robert F. Boszhardt and James P. Gallagher). Reports of Investigations 19, Mississippi Valley Archaeology Center, University of Wisconsin-La Crosse.
- 1983 Climatic Inferences Derived from the Archaeological Remains of Rice Rat (Oryzomys palustris) in the American Midwest (with Kent D. Vickery and Orrin C. Shane III). Submitted for publication to American Antiquity. A version of this report was presented at the Midwest Archaeological Conference, Madison, Wisconsin, in 1981.
- 1980 A report on the 1979-1980 archaeological survey activities conducted in the Upper Mississippi River Wildlife and Fish Refuge, Pool 10, Crawford County, Wisconsin (with James B. Stoltman). Submitted to the U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C.

- 1980 Initial interpretation of the gastropod assemblage recovered at 13PK149, Polk County, Iowa. Report on file, Department of Anthropology, University of Wisconsin-Madison.
- 1979 Faunal remains from Preston Rock Shelter (47Gt157), Grant County, Wisconsin. Report on file, Department of Anthropology, University of Wisconsin-Madison.
- 1979 The Valley View Site (47Lc34), an Orr Phase Oneota site at La Crosse: 1978 excavations and analysis (with James P. Gallagher and Katherine Stevenson). Report prepared for the State Historical Society of Wisconsin.
- 1978 Lithic raw material utilization in southwestern Ohio and its relevance to raw material exchange in the region's prehistory. Report on file at the University of Cincinnati Department of Anthropology.
- 1975 An intensive archaeological survey in the Ohio River Valley of Clermont County, Ohio, 1971-1974. Report on file at the Department of Anthropology, University of Cincinnati.
- 1974-present Numerous summary reports of faunal investigations for various sites in the Upper Midwest.

PROFESSIONAL PAPERS:

- 1985 The Oneota Scapula Hoe. Presented at the 115th Annual Conference of the Wisconsin Academy of Sciences, Arts, and Letters, April 26, at the University of Wisconsin-La Crosse.
- 1984 Environmental change in the Late Pleistocene and Holocene: invertebrate and aquatic fauna. Invited paper presented at the conference on "Environmental and Cultural Change in the Prairie Peninsula," held at Illinois State Museum, Springfield, Illinois, May 1984.
- 1984 Recent archaeological investigations in southeastern Iowa. Presented at the Annual Meeting of the Iowa Academy of Science, The University of Iowa, Iowa City.
- 1983 Middle Woodland Summer Subsistence Patterns in the Prairie du Chien locality: faunal remains. Presented at the Midwest Archaeological Conference, Iowa City, Iowa.

- 1983 Woodland subsistence patterns and the dietary importance of freshwater mussels. Presented at the 48th Annual Meeting of the Society for American Archaeology, Pittsburgh, Pennsylvania.
- 1981 The Prairie Phase, an "Early Woodland" manifestation in the Upper Mississippi Valley (with James B. Stoltman and Robert F. Boszhardt). Presented at the Midwest Archaeological Conference, Madison, Wisconsin.
- 1980 Animal resource utilization by Late Woodland groups in southern Ohio: a perspective from Sand Ridge (33Hal17). Presented at the Midwest Archaeological Conference, Chicago, Illinois.
- 1980 The 1980 archaeological investigations at the Mill Pond site, a Woodland extractive camp in Crawford County, Wisconsin (with Constance M. Arzigian). Presented at the Midwest Archaeological Conference, Chicago, Illinois.
- 1977 A preliminary report on the gastropods from the Dupont site, 33Hall. Presented at the Annual Meeting of the Central States Anthropological Society, Cincinnati, Ohio.
- 1974 Chert utilization at the Ferris site, 33Ct31, an Early Archaic camp in southwestern Ohio (with Timothy S. Dalbey). Presented at the Ohio Valley Archaeological Conference, Tullahoma, Tennessee.

SOCIETY/ORGANIZATION MEMBERSHIPS:

Society for American Archaeology
American Quaternary Association
The Plains Conference
Society of Ethnobiology
Wisconsin Archeological Society
Iowa Archeological Society
American Malacological Union
Wisconsin Archaeological Survey (Vice President 1985-87, President
Elect 1987-89)

APPENDIX G:
REVIEW COMMENTS



DEPARTMENT OF THE ARMY

ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U.S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101-1479

January 24, 1989

REPLY TO
ATTENTION OF

Environmental Resources Branch
Planning Division

Mr. Robert F. Boszhardt
Mississippi Valley Archeology Center
1725 State Street
La Crosse, Wisconsin 54601

Dear Mr. Boszhardt:

Enclosed are the comments of the St. Paul District on your draft Reports of Investigations No. 72 for *Cultural Resources Mitigation at the McIlvaine Island Site (47LC160) in Navigation Pool 7, Upper Mississippi River*. Please make the appropriate changes in the text and submit the final report to us, including your request for final payment.

Should you have any questions concerning our comments, please contact Mr. David Berwick of my staff at (612) 220-0261.

Sincerely,

Encl

Charles E. Workman
Chief, Environmental Resources Branch
Planning Division

ST. PAUL DISTRICT COMMENTS ON A REPORT ENTITLED:

CULTURAL RESOURCES MITIGATION AT
THE MCILVAINE ISLAND SITE (47LC160)
IN NAVIGATION POOL 7, UPPER MISSISSIPPI RIVER

MISSISSIPPI VALLEY ARCHAEOLOGY CENTER
REPORTS OF INVESTIGATIONS NO: 72

1. The cover page and the introduction should include the contract number for this contract (DACW37-86-M-1721).
2. The report should be carefully edited for typographical errors and misspellings. For example, in the Acknowledgments section: "destruction" (line 19), David "Hammes" (line 20), and "quickly" (line 25) all need correction. Page 5 "toppling" (line 10). Page 7 "suggests" (line 4). Page 27 "show" (line 1).
3. P. 2, line 15: "The materials recovered . . ." repeats itself. Further, the word "our" should be "or".
4. P. 4, line 10: Tributing is not a word (also P. 10, line 16) . You could instead say "and the associated delta of the Black River, a tributary of the Mississippi River."
5. P. 6, first sentence: This sentence is awkward.
6. P. 8, line 5: "The Dresbach Dam" should be "The Lake Onalaska Spillway".
7. P. 8, first paragraph: It would be helpful in the discussion about the area prior to inundation to reference some of the later figures, such as 5, 6, 7, 8, or 9.
8. P. 10, line 7: replace "implementation of the lock and dam 9 foot channel system ..." with "implementation of the Nine-Foot Navigation Channel Project ..."
9. P. 10, line 19: You reference mature tributary valleys; aren't these tributary valleys considered to be geologically young?
10. P. 13, last line: Do you mean "sundry"? Why not use "diverse"?
11. P. 14, line 3: Replace "installation" with "construction".
12. P. 14, line 4: Replace "aboriginal" with "prehistoric" or "pre-settlement".
13. P. 15, 2nd paragraph: You state here that "it appears that the floodplain itself only began to be utilized during the Late Archaic ..." Based upon our current knowledge and the extent of adequate surveys of the floodplain, I can see no case for eliminating the possibility for habitable

surfaces dating to periods prior to the Late Archaic. I believe that there is a good chance that older surfaces, including archeological sites, exist on the Mississippi River, but that we have not yet developed a decent method for finding these sites. Overstreet (1984: 11) feels that surfaces in the range of 8-6000 B.C. are extant in Pool 10. This would seem to be supported, at least circumstantially, by the occasional discovery of pre-Late Archaic projectile points in the floodplain.

14. P. 18, line 5: Replace "decoration innovation" with "innovative decorative technique".
15. P. 19, 2nd sentence: This sentence doesn't make sense.
16. P. 23, last sentence: This sentence needs a period.
17. P. 24, line 12: Why was the name of the island changed from Taylor?
18. P. 34, line 10: Since this is a new section of the report, the name of the site should be stated again. Also (line 12) the name of the island should be stated again.
19. P. 35, line 7: The GLARC study that discusses Holocene wind erosion should be referenced.
20. P. 35, line 21: The word "climate" should be "climatic" and the word "and" should be inserted between "Holocene" and "from".
21. P. 39, line 6: Delete the word "a".
22. P. 43, line 17: The presence of a single shovel-shaped incisor indicates that one of the individuals was Native American.
23. P. 45, line 9: "Present surface vegetated ..." should read "Present vegetated surface ..."
24. P. 48, line 22: How did you determine that the animal burrow was recent?
25. P. 57, line 2: "Date" should read "Data".
26. P. 57, line 8: "disgression" should read "digression".
27. P. 61, Figure 25: For orientation purposes, it would be best if this figure had been oriented in the same direction as figures 11 and 22.
28. P. 65, line 7: Delete the word "of" after ascertain.
29. P. 68, line 16: Suggest rewriting the sentence beginning "Excavations from 30 to 50 cm ..." to "At 39 cm, the Madison Cord Impressed vessel (ca. A.D. 800-1200) that was associated with Feature 17 was encountered. Immediately below this were six sherds of a Lane Farm Cord Impressed vessel (ca. A.D. 700)."
30. P. 68, last line: Replace "body sherds are greater than 8 mm thick and contain ..." with "body sherds with a thickness greater than 8 mm and with large ..."
31. P. 71, line 3: A semicolon should follow the word "categories" and

the following word "in" should be deleted.

32. P. 71, first paragraph: Do you have any idea why there would be a "virtual absence of animal bone ..." at the site and yet the remains of the burials survive? ~~See page 111~~ See pg 43 + 100-101

33. P. 74, line 3: "leads" should be "lends".

34. P. 74, line 7: "by" should be capitalized.

35. P. 74, line 11: Trench X should be shown on figure 25.

36. P. 77, line 7: "two Havana ware body sherds recovered ..." should read "two Havana Ware body sherds were recovered ..." The following sentence should read "One of these also has cord-wrapped stick impressions closely resembling the sherds ..."

37. P. 78, line 19: The word "surplanted" should be "supplanted".

38. P. 78, line 21: A comma should follow the word "region".

39. P. 78, line 22: Replace "... about A.D. 1300-1400 local groups closely resemble in ceramics and other traits ..." with "about A.D. 1300-1400 ceramics and other traits of local groups closely resemble the Oneota ..."

40. It seems odd to have the bannerstone as an inset to the grooved axe.

41. P. 102, line 11: Delete the word "and".

42. P. 102, line 13: "documented of this site" should read "documented at this site".

43. P. 102, last line: The word "unfeasible" should be "infeasible".

FEB 3 1988

FWS/ANW-WSS

Mr. Charles E. Workman
Chief, Environmental Resources Branch
Planning Division
U. S. Army Engineer, St. Paul District
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101-1479

Dear Mr. Workman:

The Army Corps of Engineers has been the chief contracting office for the recent archeological investigations that led to the draft report "Cultural Resources Mitigation at the McIlwaine Island Site (47Lc160) in Navigation Pool 7, Upper Mississippi River" by the Mississippi Valley Archaeology Center. Thus we are sending you our comments on the draft report for consolidation to the contractor. The report has been reviewed by the La Crosse District and the headquarters offices of the Upper Mississippi River National Wildlife and Fish Refuge and by the Regional Historic Preservation Officer.

There were not a lot of typographical or editorial problems with the report, but we will point out the ones we noticed. Page 1 — "David hammers"; page 2 — "investigations; however, do"; "The materials recovered The materials recovered add to our contribute"; page 4 — "In addition, were a"; page 6 — "represent either...[or?] early 19th"; page 7 — "sugeests"; pages 27-32 — references to or the figures 8 and 9 appear to be reversed; page 31 — "1932 Foway Man"; page 34 — "a retired game warden"; page 57 — "Date Recovery Plan"; page 61 — "feature was excavated"; page 65 — "to ascertain of that the pit"; page 77 — "stick impressions closely resembles."

The logic developed through the report leading to the conclusion that human remains are probably those of historic period Winnebago Indians appears to be a promising combination of historical documents and archeological analysis. We are concerned, however, about the seeming total lack of 19th century artifacts except for kaoline pipe fragments. And, the only kaoline pipe fragment discovered under controlled conditions was presumably out of context on the eroding shoreline. Surely by the 1840s the Winnebago had given up stone tools and clay pots in favor of metal tools, guns, glass, and other western artifacts. Any encampment of duration long enough to leave behind things — and presumably more — burials should have left some kind of historic period debris. We suggest the cultural identity of the burials is more questionable than the report might indicate. Nevertheless, we suggest the Center be encouraged to arrange for burials a description on page 11.

Handwritten notes:
2-2-88
Gibbs
2-2-88
Elh
2/3/88

Dr. Charles E. Moorman

2

The contractor did a good job of combining and synthesizing the results of the two separate Federal contracts. There should be more opportunities for the two Federal agencies to pool resources with the Mississippi Valley Archeology Center. Also, we feel the report has good perspective, placing the site into its geographical and cultural contexts.

Finally, the report does a good job of describing the erosion problem, describing the extent of erosion throughout Lake Oahe as well as on Hollvaine Island for the past fifty years. Thus whatever remains on Hollvaine Island in undisturbed context represents a rapidly vanishing archeological resource. The report leaves to our Federal agencies a solution to the problem, a solution that probably escapes the Fish and Wildlife Service acting alone. A preservation problem of this sort, in fact, seems appropriate to the Environmental Management Program.

Sincerely,

Charles E. Moorman

bcc: UMR
WSS-FM

FWS/ARW-WSS-FM:J.DOBROVOLNY:rmj:2-2-88:x3924



THE STATE HISTORICAL SOCIETY OF WISCONSIN

H. Nicholas Muller III, Director

816 State Street
Madison, Wisconsin 53706
608/262-3266

HISTORIC PRESERVATION DIVISION

February 23, 1988

Mr. Charles E. Workman
Department of the Army
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101-1479

SHSW: 84-1059
RE: Red Oak Ridge Island, Pool 7

Dear Mr. Workman:

Thank you for giving us the opportunity to review the draft report entitled "Cultural Resources Mitigation at the McIlvaine Island Site (47Lcl60) in Navigation Pool 7, Upper Mississippi River" by James Gallagher and Robert Boszhardt. We apologize for the delay in getting you these comments.

This report reflects extremely thorough research and expert field investigation by the authors. The results of the project make an important contribution to our understanding of the prehistory of the Upper Mississippi River Valley. The results also underscore two important points. First, recently proposed generalizations concerning the effects of mid to late Holocene climatic episodes on archeological sites are premature. As you recall, the importance of the McIlvaine Site was originally overlooked based on hypothetical models of site deflation during several periods of desiccation in the prehistoric past. Such processes may have affected archeological sites in the Mississippi Valley, but the discovery of in situ deposits, including pit features, at the McIlvaine Site indicates that the effects were not uniform. More work along the lines of Jeff Anderson's recent geomorphological study are needed before we can predict the extent to which archeological sites in the Upper Mississippi Valley maintain subsurface integrity.

Second, immediate action must be taken to prevent further destruction of the McIlvaine Site and other sites like it in the Mississippi River. In the case of the McIlvaine Site, Gallagher and Boszhardt have presented a number of options. However, given the fact that so little remains of the site/island, we do question the wisdom of attempting long term stabilization and management. It may be more practical and cost effective to simply complete data recovery. Naturally this would contribute to the destruction of the island itself and we realize that this may be a concern. We look forward to working with you on this problem.

Mr. Charles E. Workman - 2

February 23, 1988

Some specific comments regarding the draft report area as follows:

1. The authors should look for many typos.
2. The pipes described in the text are no longer commonly referred to as "kaoline" evidently since kaoline clay was often not used. Most historical archeologists currently refer to them as "white clay" pipes.
3. The link between 19th century Winnebago and the burials is reasonable but the evidence is circumstantial. The clay pipes could as well be attributable to a 19th century Euro-American occupation. Nevertheless, we endorse the involvement of the local Indian community in decisions ^{re:} the deposition of the human remains.

Finally we would like to comment both the U.S. Fish and Wildlife Service and the Army Corps of Engineers for their rapid response to the problems at the McIlvaine Site.

Sincerely,

Robert A. Birmingham
Staff Archeologist

RAB:1kr

cc: Dr. James Gallagher ✓
Mr. David Berwick
Mr. John Dobrovolny

0634N